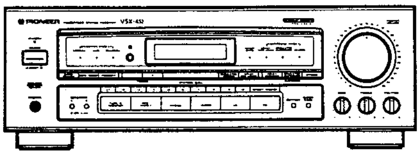
PIONEER®
The Art of Entertainment

Service Manual



ORDER NO.
ARP2716

AUDIO/VIDEO STEREO RECEIVER

VSX-452
VSX-402
VSX-462S

VSX–452, VSX–402 AND VSX–462S HAVE THE FOLLOWING :

Type	Model			Power Requirement	Remarks
	VSX–452	VSX–402	VSX–462S		
KUXJ	○	○	—	AC120V only	
KCXJ	○	○	○	AC120V only	
SDXJ	○	—	—	AC110V, 120–127V, 220V, 240V (Swichable)	

- **This manual is applicable to the following : VSX–452/KUXJ, KCXJ and SDXJ ; VSX–402/KUXJ and KCXJ ; VSX–462S/KCXJ.**
- **The "S" at the end of the model number indicates that a programable remote control unit is supplied.**

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols -▮▭⊟- (fast operating fuse) and/or -▮▭⊠- (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible -▮▭⊟- (fusible de type rapide) et/ou -▮▭⊠- (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

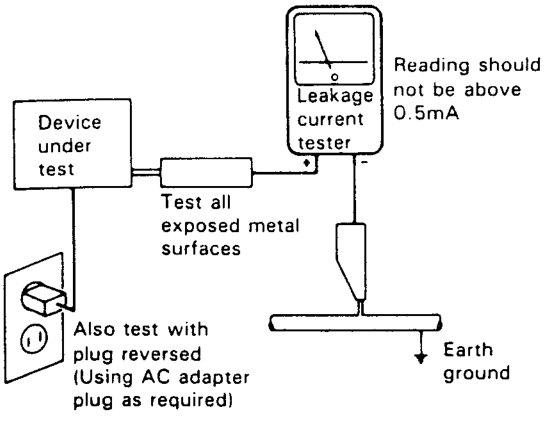
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Device under test
Leakage current tester
Reading should not be above 0.5mA
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS, PACKING AND PARTS LIST

NOTES :

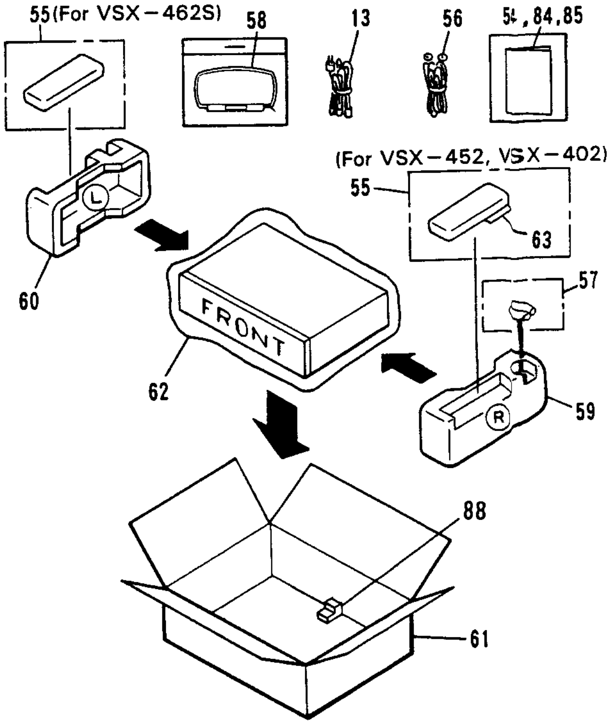
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts list of Exterior and Packing

Mark	No.	Description	Parts No.
⚠	1	TRANSISTOR (Q3) (Except VSX−402)	2SA1265N
⚠	1	TRANSISTOR (Q3) (For VSX−402)	2SA1302
⚠	2	TRANSISTOR (Q4) (Except VSX−402)	2SA1265N
⚠	2	TRANSISTOR (Q4) (For VSX−402)	2SA1302
⚠	3	TRANSISTOR (Q6) (Except VSX−402)	2SA1265N
⚠	4	POWER TRANSISTOR (Q8)	2SA1803
⚠	5	TRANSISTOR (Q1) (Except VSX−402)	2SC3182N
⚠	5	TRANSISTOR (Q1) (For VSX−402)	2SC3281
⚠	6	TRANSISTOR (Q2) (Except VSX−402)	2SC3182N
⚠	6	TRANSISTOR (Q2) (For VSX−402)	2SC3281
⚠	7	TRANSISTOR (Q5) (Except VSX−402)	2SC3182N
⚠	8	POWER TRANSISTOR (Q7)	2SC4688
⚠	9	POWER TRANSFORMER (T1) (For VSX−452/KUXJ, KCXJ and VSX−462S)	ATS1482
⚠	9	POWER TRANSFORMER (T1) (For VSX−452/SDXJ)	ATS1484
⚠	9	POWER TRANSFORMER (T1) (For VSX−402)	ATS1485
⚠	10	FUSE (4A/125V, FU3)	AEK−125
⚠	11	FUSE (4A/125V, FU4)	AEK−125
⚠	12	FUSE (8A/125V, FU1) (Except VSX−452/SDXJ)	AEK1002
⚠	12	FUSE (4A/125V, FU1) (For VSX−452/SDXJ)	AEK−125
⚠	13	AC POWER CORD (Except VSX−452/SDXJ)	ADG1126
⚠	13	AC POWER CORD (For VSX−452/SDXJ)	ADG1129
NSP	14	CHASSIS (MTL)	ANA1212
	15	REAR PANEL (MTL) (For VSX−452/KUXJ, KCXJ and VSX−462S)	ANC2059
	15	REAR PANEL (MTL) (For VSX−452/SDXJ)	ANC2061
	15	REAR PANEL (MTL) (For VSX−402)	ANC2060
NSP	16	RADIATOR (Except VSX−402)	ANH1424
NSP	16	RADIATOR (For VSX−402)	ANH1431
	17	INSULATOR (Except VSX−402)	PNW1912
	18	VOLUME HOLDER	ANG1852
NSP	19	NYLON BINDER	AEC−093
NSP	20	PCB SUPPORT	AEC1013
NSP	21	PCB HOLDER	AEC1097
	22	MICA SHEET	AEE1014
	23	BINDER	AEP−215
	24	PCB MOLD (PP)	AMR2533
	25	PCB MOLD (PP)	AMR2534
	26	SPACER (PLS)	AMR2544
	27	SCREW	ABA−298
	28	SCREW	ABA1018
	29	SCREW	ABA1024
	30	SCREW (STEEL)	ABA1053
	31	SCREW	ABA1147
	32	SCREW	ABA1082
	33	SCREW	BBZ30P080FZK
	34	SCREW	BCZ30P080FMC
	35	SCREW	BPZ26P080FMC
	36	NUT	NK70FUC
	37	FRONT PANEL (PLS) (For VSX−452)	AMB2126
	37	FRONT PANEL (PLS) (For VSX−402)	AMB2127
	37	FRONT PANEL (PLS) (For VSX−462S)	AMB2133
	38	DISPLAY PANEL (PLS) (Except VSX−402)	AAK2443
	38	DISPLAY PANEL (PLS) (For VSX−402)	AAK2444
	39	SASH (PLS)(Except VSX−402)	AAK2445
	39	SASH (PLS) (For VSX−402)	AAK2446
	40	INDICATOR PANEL A (Except VSX−402)	AAK2450
	40	INDICATOR PANEL A (For VSX−402)	AAK2454
	41	INDICATOR PANEL B	AAK2451
	42	SASH S (PLS)	AAP1368
	43	BADGE (PIONEER)	PAM1608
	44	LED LENS	PNW2019
	45	ROUND KNOB L (PLS)	AAB1340
	46	ROUND KNOB M (PLS)	AAB1341
	47	FUNCTION BUTTON (PLS)	AAD2412
	48	HINGE BUTTON A (PLS)	AAD2413
	49	HINGE BUTTON B (PLS) (Except VSX−402)	AAD2414
	49	HINGE BUTTON B (PLS) (For VSX−402)	AAD2415
	50	SPEAKER BUTTON (PLS)	AAD2416
	51	TACT BUTTON (PLS)	AAD2417
	52	POWER BUTTON (PLS)	AAD2418
	53	BONNET CASE (MTL)	ANE1431
	54	OPERATING INSTRUCTIONS (English) (For VSX−452)	ARB1424
	54	OPERATING INSTRUCTIONS (English) (For VSX−402)	ARB1426

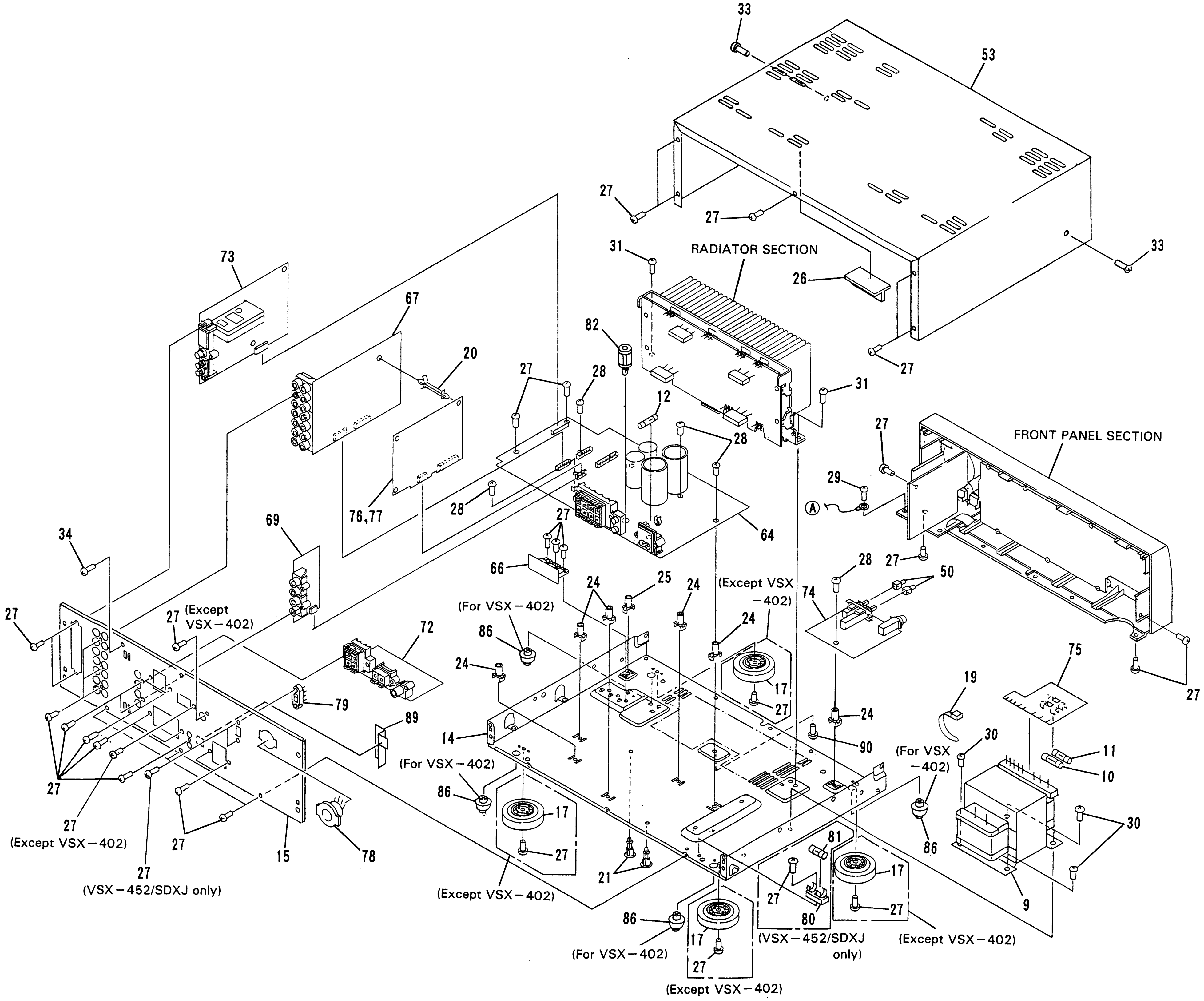
Mark	No.	Description	Parts No.
	55	REMOTE CONSOLE UNIT (CU−VSX063) (For VSX−452)	AXD1338
	55	REMOTE CONSOLE UNIT (CU−VSX066) (For VSX−402)	AXD1340
	55	REMOTE CONSOLE UNIT (CU−VSX065) (For VSX−462S)	AXD1342
	56	FM ANTENNA	ADH1008
NSP	57	BATTERY (R03, AAA) (Except VSX−462S)	AEX−021
NSP	57	BATTERY (LR6, AA) (For VSX−462S)	AEX1007
	58	LOOP ANTENNA (L)	ATB1009
	59	SIDE PAD R (PS)	AHA1588
	60	SIDE PAD L (PS)	AHA1589
	61	PACKING CASE (For VSX−452/KUXJ, KCXJ)	AHD2520
	61	PACKING CASE (For VSX−452/SDXJ)	AHD2527
	61	PACKING CASE (For VSX−402)	AHD2529
	61	PACKING CASE (For VSX−462S)	AHD2553
	62	PACKING SHEET	AHG1016
	63	BATTERY COVER (Except VSX−462S)	AZN2240
	64	MOTHER ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWZ4757
◉	64	MOTHER ASSEMBLY (For VSX−452/SDXJ)	AWZ4776
	64	MOTHER ASSEMBLY (For VSX−402)	AWZ4768
◉	65	FRONT. FL ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWZ4758
◉	65	FRONT. FL ASSEMBLY (For VSX−452/SDXJ)	AWZ4777
◉	65	FRONT. FL ASSEMBLY (For VSX−402)	AWZ4769
	66	REG. ASSEMBLY	AWZ5039
	67	A. FUNC ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4759
	67	A. FUNC ASSEMBLY (For VSX−402)	AWZ4770
	68	POWER. AMP ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4761
	68	POWER. AMP ASSEMBLY (For VSX−402)	AWZ4772
	69	VIDEO. AMP ASSEMBLY	AWZ4763
	70	M. VOL ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4764
	70	M. VOL ASSEMBLY (For VSX−402)	AWZ4773
	71	TONE. CON ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4765
◉	71	TONE. CON ASSEMBLY (For VSX−402)	AWZ4774
◉	72	R, C. SP ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4760
◉	72	R, C. SP ASSEMBLY (For VSX−402)	AWZ4771
◉	73	TUNER ASSEMBLY	AWZ4762
◉	74	H. PHNE, SP. SW ASSEMBLY	AWZ4766
◉	75	TRANS ASSEMBLY	AWZ4767
	76	DOL. PRO. MOD. ASSEMBLY (Except VSX−402)	AXQ1009
	77	DOLBY. SURR ASSEMBLY (VSX−402 only)	AWZ4775
⚠	78	VOLTAGE SELECTOR (S1) (VSX−452/SDXJ only)	AKX−507
⚠	79	VOLTAGE SELECTOR (S2) (VSX−452/SDXJ only)	AKX1004
⚠	80	FUSE HOLDER (VSX−452/SDXJ only)	AKR1001
⚠	81	FUSE (4A/125V, FU2) (VSX−452/SDXJ only)	AEK−125
NSP	82	PCB SUPPORT (VSX−452/SDXJ only)	AEC1447
	83	ROUND KNOB S (PLS) (VSX−402 only)	AAB1342
	84	OPERATING INSTRUCTIONS (French) (For VSX−452/KCXJ)	ARC1428
	84	OPERATING INSTRUCTIONS (French) (For VSX−402/KCXJ)	ARC1418
	85	OPERATING INSTRUCTIONS (English, French) (For VSX−462S/KCXJ)	ARE1274
	86	FOOT (For VSX−402)	AEC1505
	87	LEAD WIRE (J13)	ADX1915
	88	SUB PAD	AHB1113
	89	BARRIER	AMR2570
	90	SCREW	ABA1054

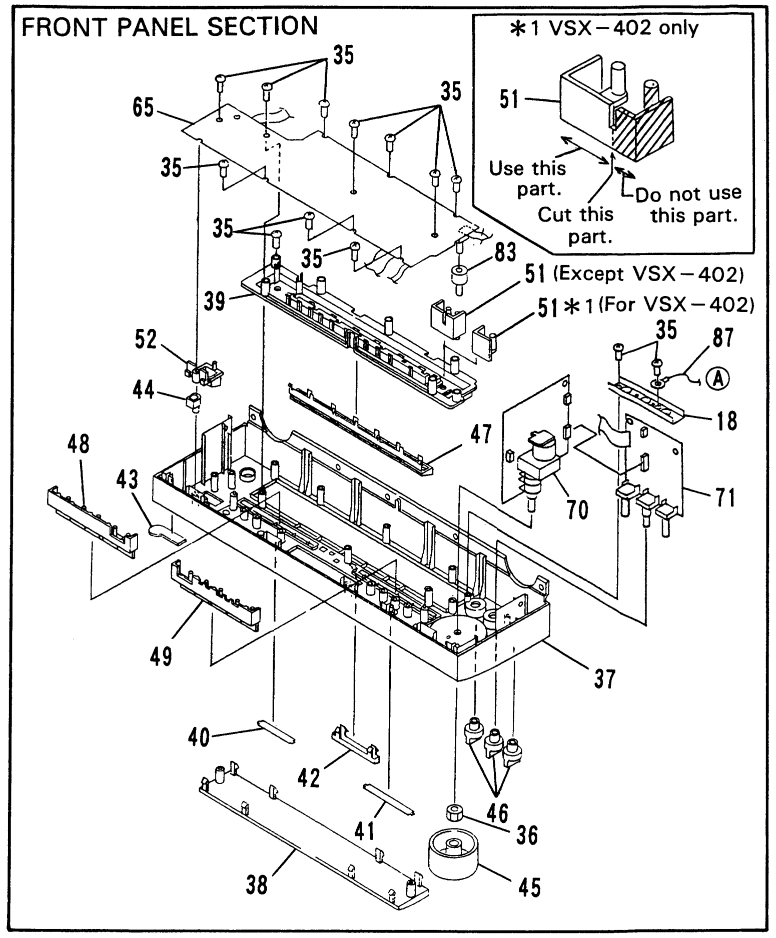
● PACKING



● EXTERIOR

NOTE : Screws adjacent to ▼ mark on the product are used for disassembly.


33
53
27
27
33
31
RADIATOR SECTION
26
27
73
67
82
20
27
28
31
12
28
27
FRONT PANEL SECTION
29
Ⓐ
76,77
28
64
27
34
69
66
28
27
50
24
25
24
(Except VSX-402)
74
27
(Except VSX-402)
(For VSX-402)
24
86
72
27
24
17
27
75
19
24
79
89
14
90
30
(For VSX-402)
11
10
86
(For VSX-402)
17
27
30
27
27
(Except VSX-402)
27
15
78
86
(VSX-452/SDXJ only)
21
(Except VSX-402)
81
27
80
17
27
9
86
17
(For VSX-402)
27
(VSX-452/SDXJ only)
(Except VSX-402)
(Except VSX-402)



FRONT PANEL SECTION

*1 VSX-402 only
51
Use this part.
Cut this part.
Do not use this part.
35
65
35
35
35
35
83
51 (Except VSX-402)
51*1 (For VSX-402)
39
52
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87
Ⓐ
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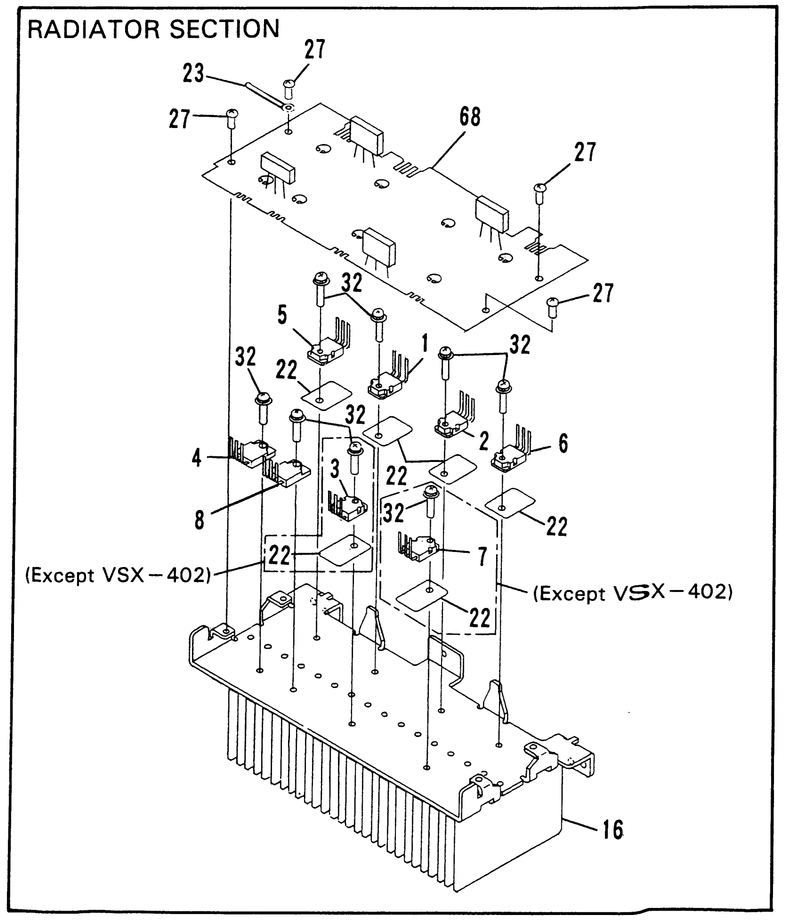
45

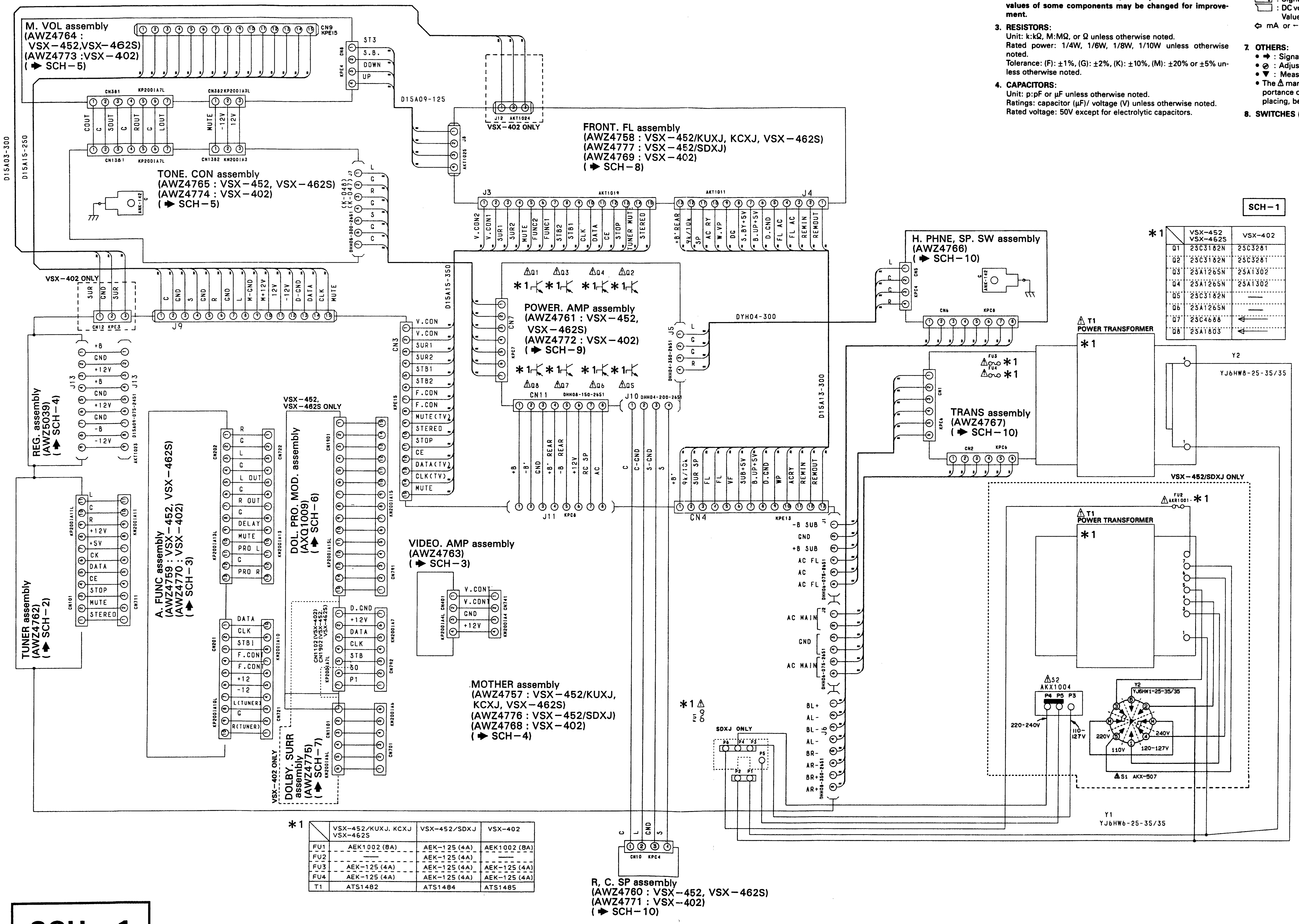


RADIATOR SECTION

27
23
27
68
27
32
5
27
1
32
32
22
32
4
3
22
2
6
8
32
22
(Except VSX-402)
22
7
(Except VSX-402)
22
16

3. SCHEMATIC AND PCB CONNECTION DIAGRAMS

3.1 OVERALL SCHEMATIC DIAGRAM


M. VOL assembly
(AWZ4764 : VSX−452,VSX−462S)
(AWZ4773 :VSX−402)
(➡ SCH−5)
TONE. CON assembly
(AWZ4765 : VSX−452, VSX−462S)
(AWZ4774 : VSX−402)
(➡ SCH−5)
FRONT. FL assembly
(AWZ4758 : VSX−452/KUXJ, KCXJ, VSX−462S)
(AWZ4777 : VSX−452/SDXJ)
(AWZ4769 : VSX−402)
(➡ SCH−8)
VSX−402 ONLY
POWER. AMP assembly
(AWZ4761 : VSX−452, VSX−462S)
(AWZ4772 : VSX−402)
(➡ SCH−9)
H. PHNE, SP. SW assembly
(AWZ4766)
(➡ SCH−10)
TRANS assembly
(AWZ4767)
(➡ SCH−10)
REG. assembly
(AWZ5039)
(➡ SCH−4)
TUNER assembly
(AWZ4762)
(➡ SCH−2)
A. FUNC assembly
(AWZ4759 : VSX−452, VSX−462S)
(AWZ4770 : VSX−402)
(➡ SCH−3)
DOL. PRO. MOD. assembly
(AXQ1009)
(➡ SCH−6)
VSX−452, VSX−462S ONLY
VSX−402 ONLY
DOLBY. SURR assembly
(AWZ4775)
(➡ SCH−7)
VIDEO. AMP assembly
(AWZ4763)
(➡ SCH−3)
MOTHER assembly
(AWZ4757 : VSX−452/KUXJ, KCXJ, VSX−462S)
(AWZ4776 : VSX−452/SDXJ)
(AWZ4768 : VSX−402)
(➡ SCH−4)
R, C. SP assembly
(AWZ4760 : VSX−452, VSX−462S)
(AWZ4771 : VSX−402)
(➡ SCH−10)
T1 POWER TRANSFORMER
VSX−452/SDXJ ONLY
SDXJ ONLY
S2 AKX1004
S1 AKX-507
Y1 YJ6HW6-25-35/35
Y2 YJ6HW8-25-35/35
220-240V
110-127V
D15A09-125
D15A15-350
D15A13-300
DYH04-300
CN1 CN2 CN3 CN4 CN6 CN7 CN9 CN10 CN11 CN12
J3 J4 J5 J6 J7 J8 J9 J10 J11 J12 J13

*1

	VSX-452/KUXJ, KCXJ VSX-462S	VSX-452/SDXJ	VSX-402
FU1	AEK1002 (8A)	AEK-125 (4A)	AEK1002 (8A)
FU2	——	AEK-125 (4A)	——
FU3	AEK-125 (4A)	AEK-125 (4A)	AEK-125 (4A)
FU4	AEK-125 (4A)	AEK-125 (4A)	AEK-125 (4A)
T1	ATS1482	ATS1484	ATS1485

Note: Type 1

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   V : Signal voltage at rated output.
   : DC voltage (V) at no input signal unless otherwise noted.
   Value in ( ) is DC voltage at rated power.
   ⇦ mA or ← mA : DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

S1	VOLTAGE SELECTOR (VSX−452/SDXJ ONLY) AC110V/120−127V/220V/240V
S2	VOLTAGE SELECTOR (VSX−452/SDXJ ONLY) AC110−127V/220−240V

SCH−1

*1

	VSX-452 VSX-462S	VSX-402
Q1	2SC3182N	2SC3281
Q2	2SC3182N	2SC3281
Q3	2SA1265N	2SA1302
Q4	2SA1265N	2SA1302
Q5	2SC3182N	——
Q6	2SA1265N	——
Q7	2SC4688	←
Q8	2SA1803	←

FRONT. FL assembly

S801	POWER
S802	BAND FM/AM
S803	MPX MODE
S804	MEMORY
S805	TUNE −
S806	TUNE +
S807	SIMULATED STEREO
S808	DOLBY 3CH LOGIC (VSX−452,VSX−462S) SUPER−BASS (VSX−402)
S809	DOLBY PRO LOGIC
S810	SIMULATED SURROUND
S811	STUDIO
S812	*1
S813	*2
S814	*3
S815	*4
S816	*5
S817	*6
S818	*7
S819	*8
S820	*9
S821	*0
S822	DIRECT ACCESS
S826	TAPE2/MONITOR
S827	VCR1/TAPE1
S828	LD
S829	CD
S830	TUNER
S831	PHONO
S832	SUPER−BASS (VSX−452,VSX−462S ONLY)
S833	RETURN

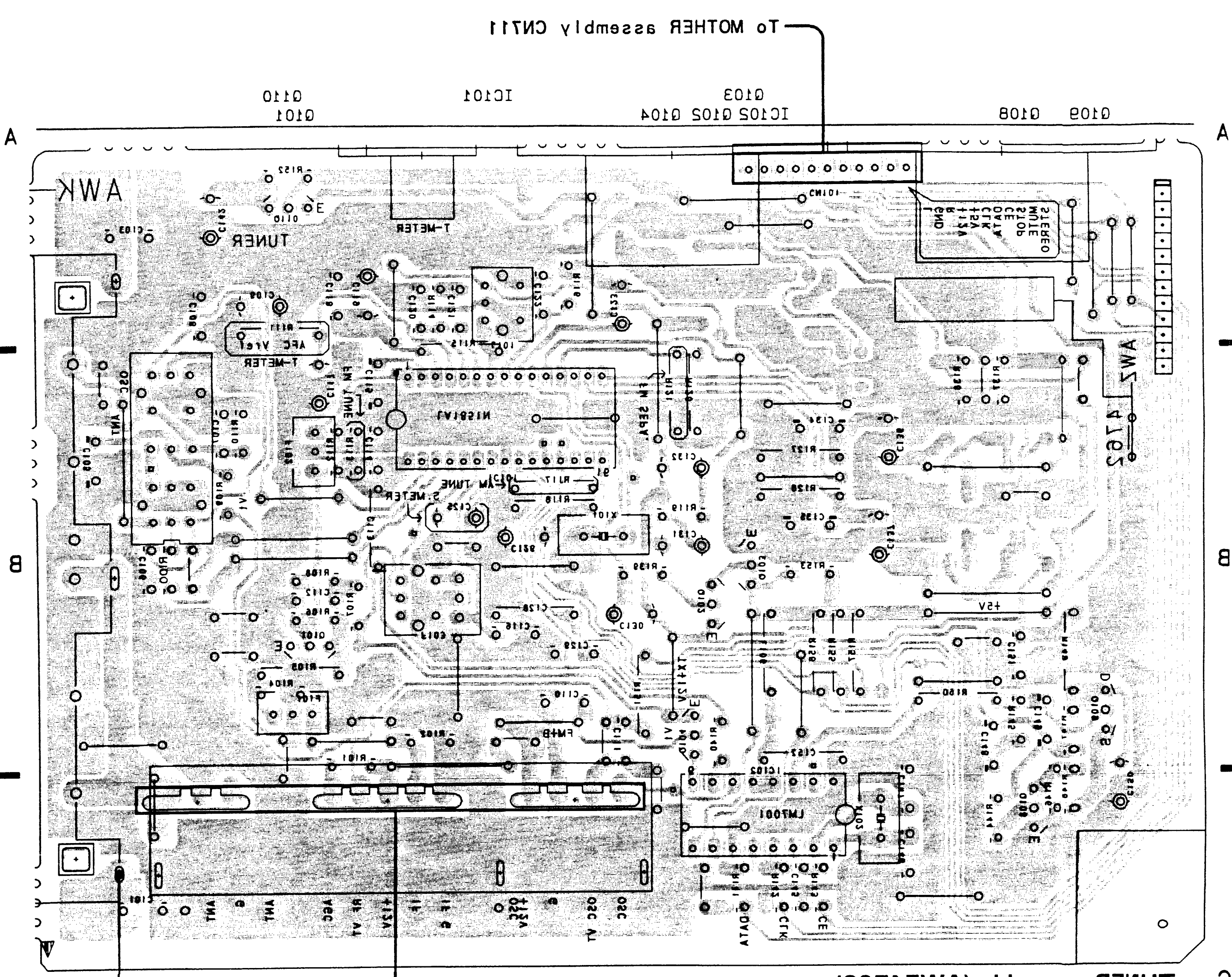
H. PHNE, SP. SW assembly

S670	SPEAKERS A ON/OFF SPEAKERS B ON/OFF

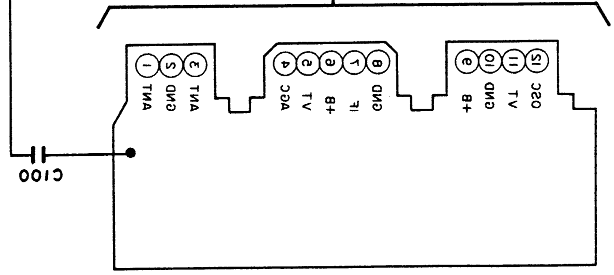
9. **For SCH−□ on the schematic diagram**
   - SCH−□ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

SCH−1

3.2 TUNER ASSEMBLY


To MOTHER assembly CN711
Q110
Q101
IC101
Q103
IC102 Q102 Q104
Q109 Q108
A
B
C
AWK
TUNER
T-METER
AFC Vref
NJ8141
LM7001
FM SEPA.
AM TUNE
S.METER
FM TUNE
+5V
FM+B
AWZ 4762
GND
V+12V
+5V
CLK
CE
DATA
STOP
MUTE
STEREO
ANT
AGC
RF VT
+12V
IF
OSC VT
OSC
DATA
CLK
CE

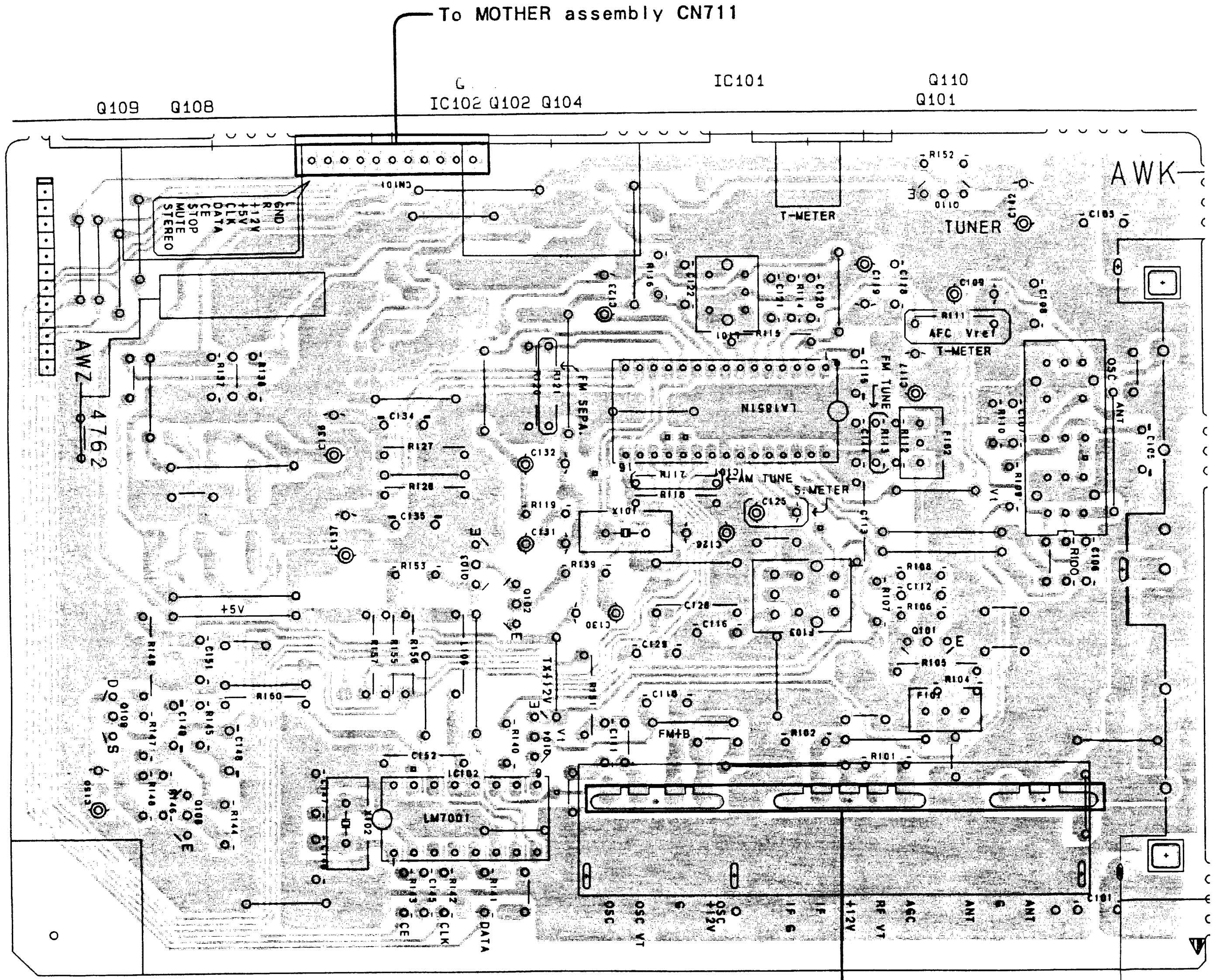
TUNER assembly (AWZ4762)


1 ANT
2 GND
3 ANT
4 AGC
5 TV
6 B+
7 IF
8 GND
9 B+
10 GND
11 TV
12 OSC
C100

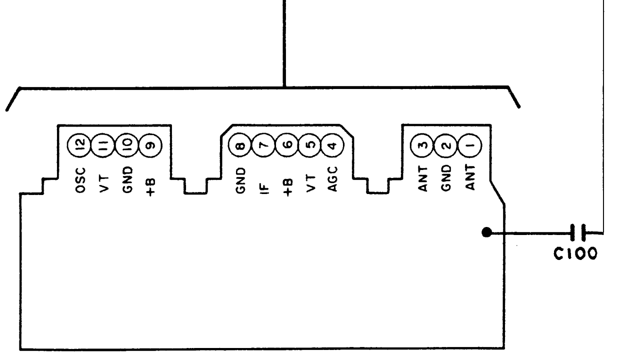
2 serial F. E. module assembly (AXQ1002)

This PCB connection diagram is viwed from the foil side.

3.2 TUNER ASSEMBLY


To MOTHER assembly CN711
Q109
Q108
IC102
Q102
Q104
IC101
Q110
Q101
AWK
TUNER
T-METER
AFC
Vref
L
GND
R
+12V
+5V
CLK
DATA
CE
STOP
MUTE
STEREO
AWZ 4762
LA1851N
FM SEPA
FM TUNE
AM TUNE
S.METER
+5V
TX+12V
FM+B
LM7001
CE
CLK
DATA
OSC
VT
OSC
+12V
IF
+12V
RF VT
AGC
ANT
ANT

TUNER assembly (AWZ4762)


12
11
10
9
OSC
VT
GND
+B
8
7
6
5
4
GND
IF
+B
VT
AGC
3
2
1
ANT
GND
ANT
C100

2 serial F. E. module assembly (AXQ1002)

This PCB connection diagram is viewd from the parts mounted side.

NOTE

1. This P.C.B connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the following Table.

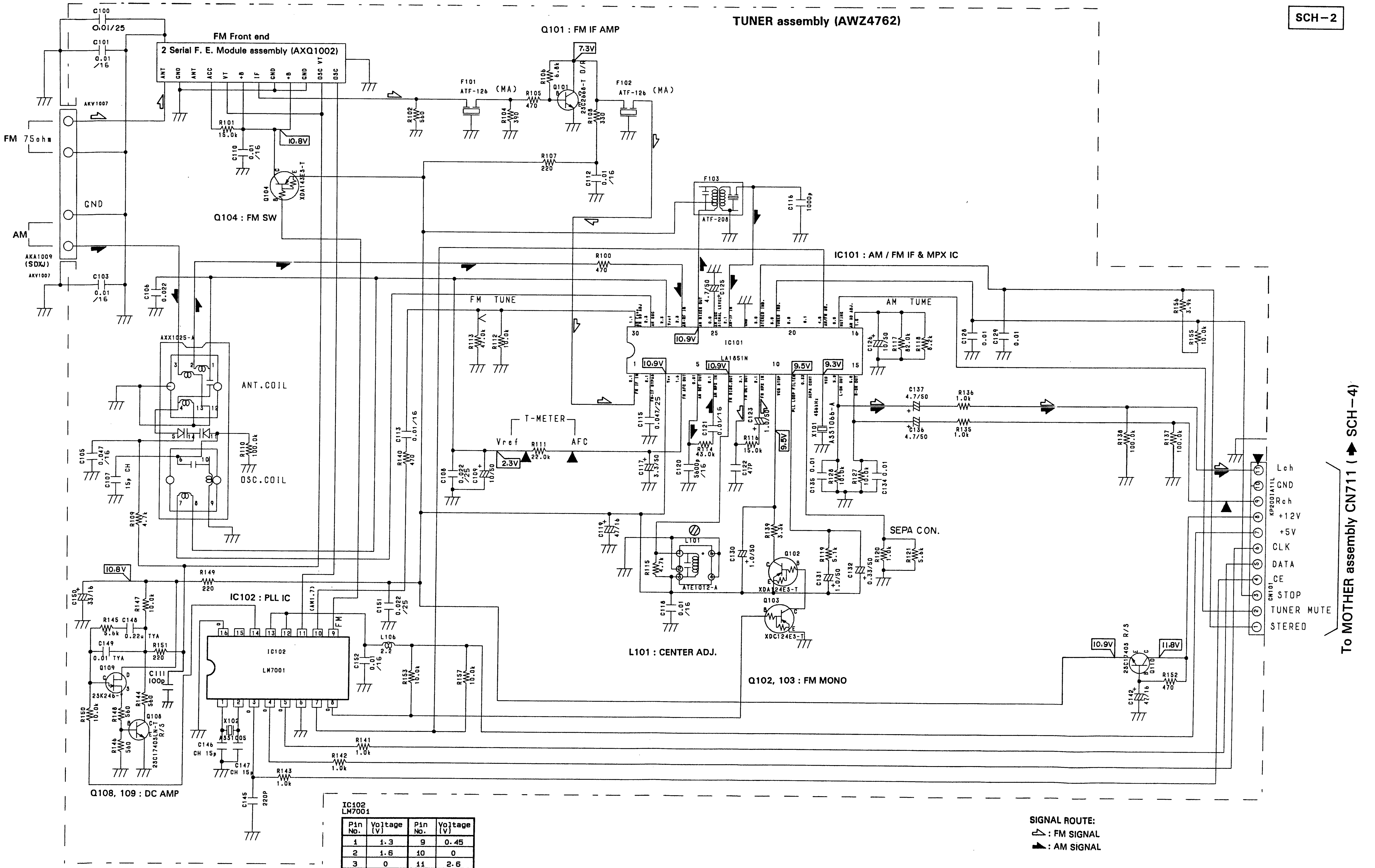
P.C.B. pattern diagram indication	Corresponding part symbol	Part Name
E Q504	E or E	Transistor
Q215	or	Radiator type transistor
D203	D203	Diode
R237	R237	Resistor
C513	+	Capacitor (Polarized)
C518		Capacitor (Non-polarized)

Others

P.C.B. pattern diagram indication	Part Name
IC	IC
S	Switch
RY	Relay
L	Coil
F	Filter
VR	Variable resistor or Semi-fixed resistor

3. The capactor terminal marked with ◎ (double circles) shows negatine terminal.
4. The diode terminal marked with ◎ (double circles) shows cathode side.
5. The transistor terminal to which E is affixed shows the emitter.

SCH-2


TUNER assembly (AWZ4762)
FM Front end
2 Serial F. E. Module assembly (AXQ1002)
Q101 : FM IF AMP
Q104 : FM SW
IC101 : AM / FM IF & MPX IC
LA1851N
IC102 : PLL IC
LM7001
Q108, 109 : DC AMP
L101 : CENTER ADJ.
Q102, 103 : FM MONO
FM 75ohm
GND
AM
ANT.COIL
OSC.COIL
FM TUNE
AM TUNE
T-METER
Vref
AFC
SEPA CON.
Lch
GND
Rch
+12V
+5V
CLK
DATA
CE
STOP
TUNER MUTE
STEREO
To MOTHER assembly CN711 (→ SCH-4)
SIGNAL ROUTE:
▷ : FM SIGNAL
▶ : AM SIGNAL
A
B
C
D

IC102
LM7001

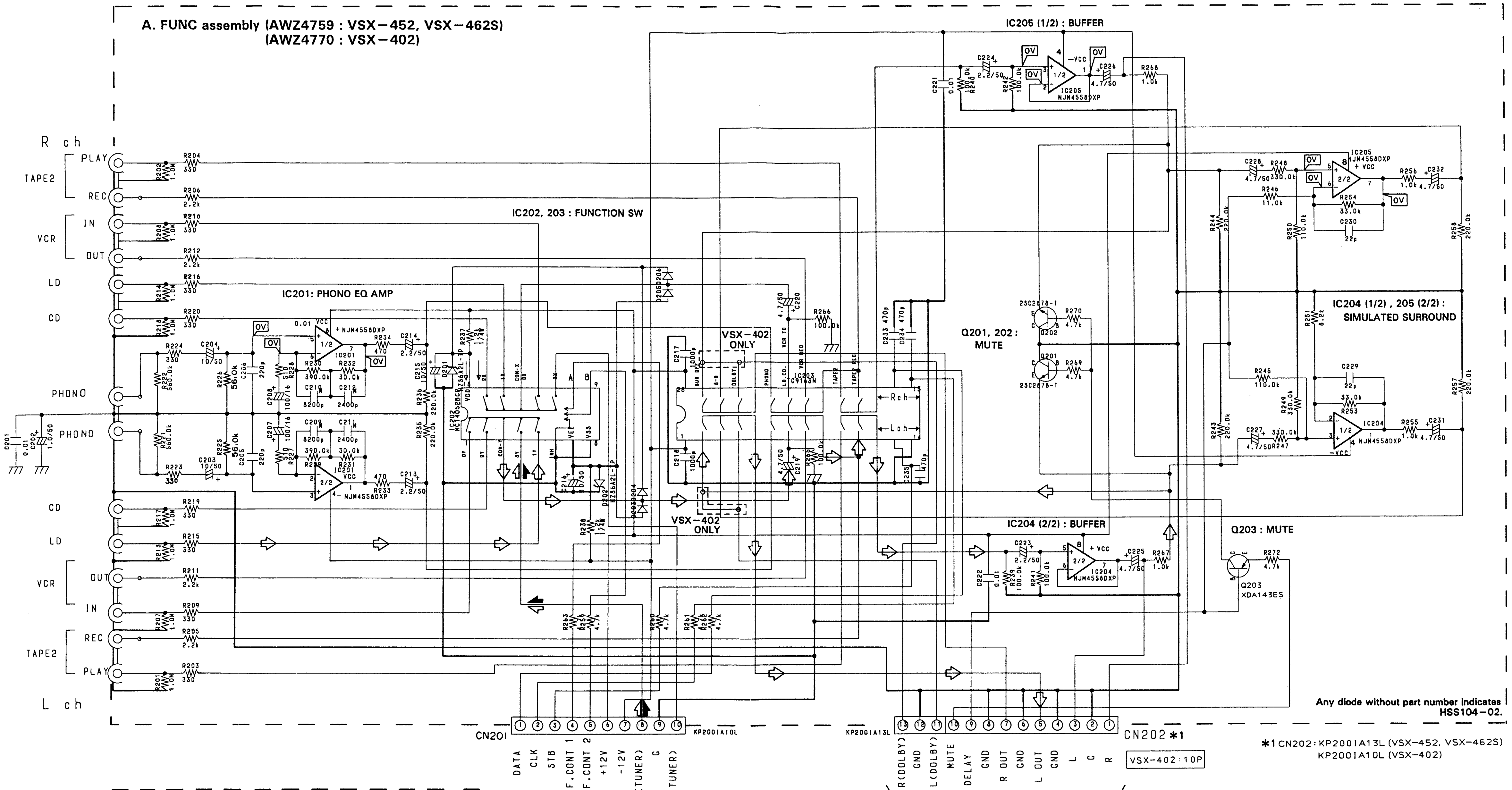
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	1.3	9	0.45
2	1.6	10	0
3	0	11	2.6
4	0	12	5.1
5	0	13	5.1
6	0	14	0
7	4.5	15	0
8	0	16	0

Note:

VOLTAGE AND CURRENT:

mV : Signal voltage at FM 1kHz, 100% MOD.
: DC voltage (V) at no input signal unless otherwise noted. Value in ( ) is DC voltage at rated power.
⇦ mA or ← mA : DC current at no input signal unless otherwise noted.

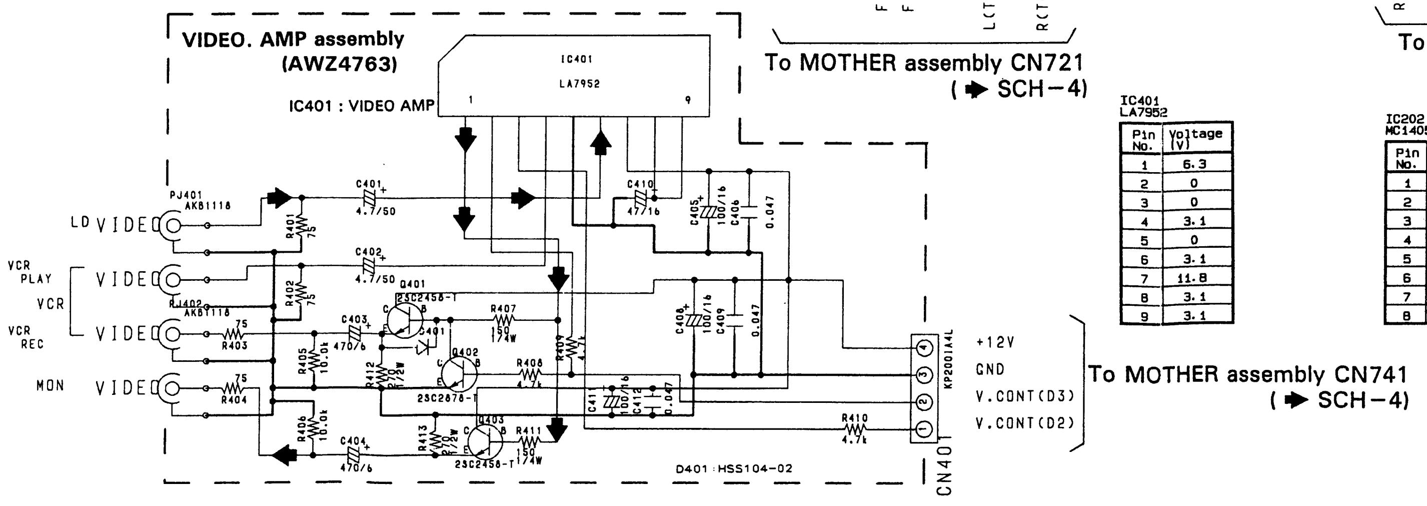
3.3 A. FUNC ASSEMBLY AND VIDEO. AMP ASSEMBLY


A. FUNC assembly (AWZ4759 : VSX−452, VSX−462S)
(AWZ4770 : VSX−402)
R ch
TAPE2
PLAY
REC
VCR
IN
OUT
LD
CD
PHONO
L ch
IC201: PHONO EQ AMP
NJM4558DXP
IC202, 203 : FUNCTION SW
IC205 (1/2) : BUFFER
IC204 (1/2), 205 (2/2) : SIMULATED SURROUND
IC204 (2/2) : BUFFER
Q201, 202 : MUTE
Q203 : MUTE
Q203 XDA143ES
2SC2878-T
VSX−402 ONLY
0V
Any diode without part number indicates HSS104−02.
CN201
KP200IA10L
KP200IA13L
CN202 *1
DATA
CLK
STB
F.CONT 1
F.CONT 2
+12V
−12V
L(TUNER)
G
R(TUNER)
R(DOLBY)
GND
L(DOLBY)
MUTE
DELAY
GND
R OUT
GND
L OUT
GND
L
G
R
VSX−402 : 10P

To MOTHER assembly CN721
(➧ SCH−4)

To MOTHER assembly CN722
(➧ SCH−4)

*1 CN202 : KP200IA13L (VSX−452, VSX−462S)
KP200IA10L (VSX−402)


VIDEO. AMP assembly
(AWZ4763)
IC401 : VIDEO AMP
IC401
LA7952
PJ401 AKB1118
LD VIDEO
VCR PLAY VCR VIDEO
VCR REC VIDEO
MON VIDEO
Q401 2SC2458-T
Q402 2SC2878-T
Q403 2SC2458-T
D401
D401 : HSS104−02
CN401
KP200IA4L
+12V
GND
V.CONT(D3)
V.CONT(D2)
To MOTHER assembly CN741
(➧ SCH−4)

IC401
LA7952

Pin No.	Voltage (V)
1	6.3
2	0
3	0
4	3.1
5	0
6	3.1
7	11.8
8	3.1
9	3.1

IC202
MC14052BCP

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	0
2	0	10	0
3	0	11	0
4	0	12	0
5	0	13	0
6	0	14	0
7	−5.6	15	0
8	0	16	5.6

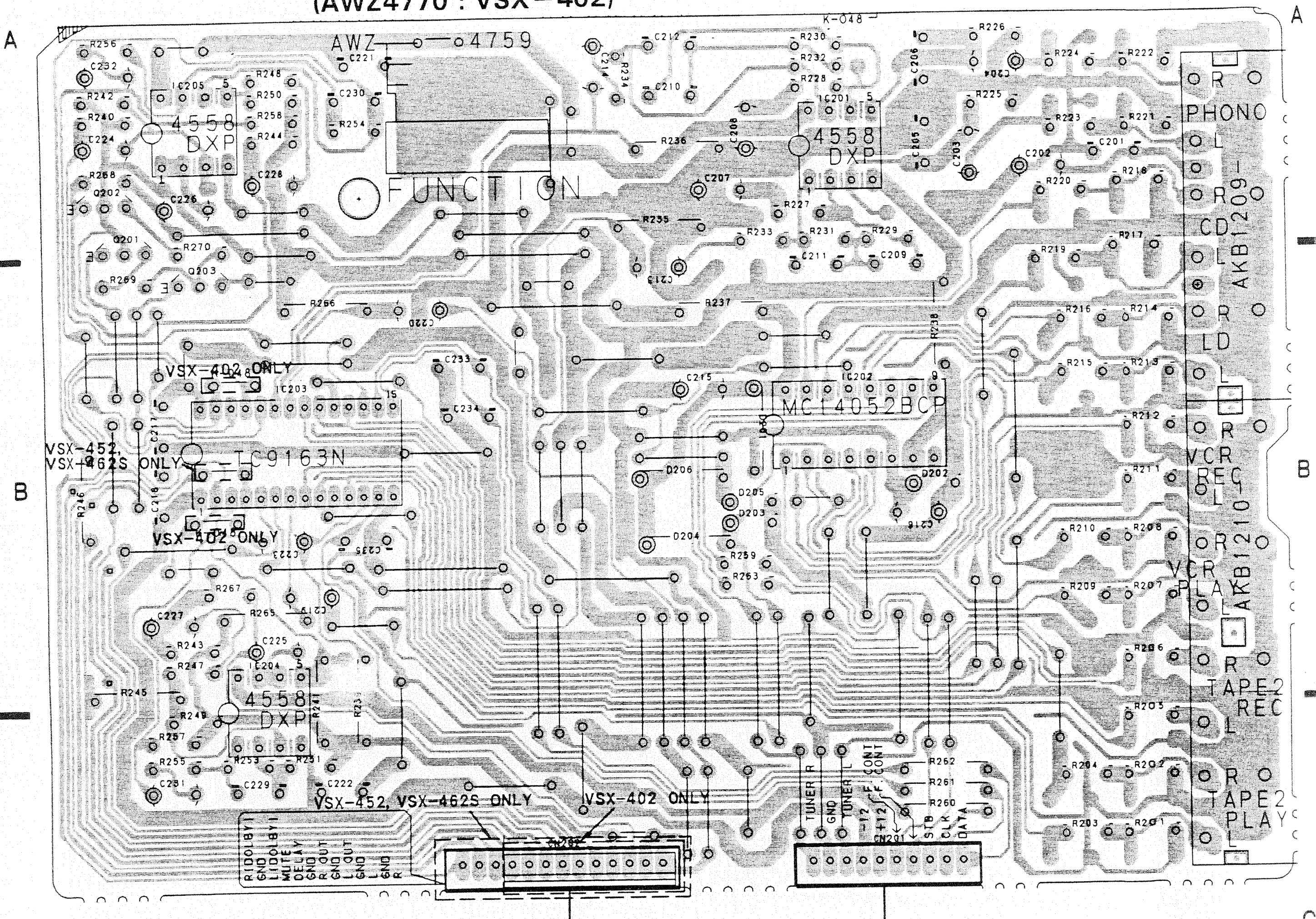
IC203
TC9163N

Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	−11.7	8	−	15	0	22	0
2	−	9	−	16	5.2	23	0
3	−	10	−	17	0	24	0
4	−	11	−	18	0	25	0
5	−	12	−	19	0	26	0
6	−	13	0	20	0	27	0
7	−	14	0	21	0	28	11.9

SIGNAL ROUTE :
➡ : VIDEO SIGNAL
⇨ : AUDIO SIGNAL
⇦ : FM SIGNAL
◀ : AM SIGNAL

Q202 Q201 IC205 Q203 IC204 IC203 IC201 IC202

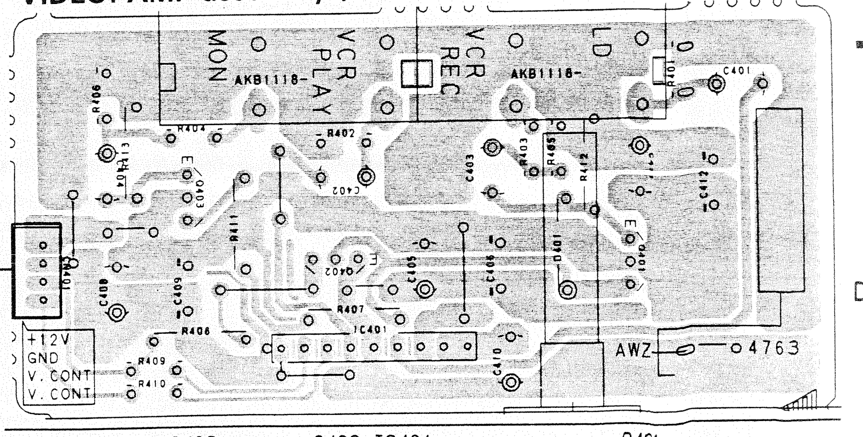
A. FUNC assembly (AWZ4759 : VSX-452, VSX-462S) (AWZ4770 : VSX-402)


A
B
C
AWZ4759
FUNCTION
K-048
IC205 4558 DXP
IC201 4558 DXP
IC204 4558 DXP
IC203 TC9163N
IC202 MC14052BCP
Q201
Q202
Q203
VSX-402 ONLY
VSX-452, VSX-462S ONLY
VSX-452, VSX-462S ONLY
VSX-402 ONLY
PHONO
CD
LD
VCR REC
VCR PLAY
TAPE2 REC
TAPE2 PLAY
R
L
AKB1209-
AKB1210-
CN202
CN201
TUNER R
GND
TUNER L
-12
+12
F. CONT
F. CONT
STB
CLK
DATA
RIDOLBY
GND
LIDOLBY
MUTE
DELAY
GND
R OUT
GND
L OUT
GND
L
GND
R
D202
D203
D204
D205
D206

To MOTHER assembly CN722

To MOTHER assembly CN721

VIDEO. AMP assembly (AWZ4763)


D
MON
VCR PLAY
VCR REC
LD
AKB1118-
AKB1118-
IC401
Q401
Q402
Q403
CN401
+12V
GND
V. CONT
V. CONT
AWZ4763

To MOTHER assembly CN741

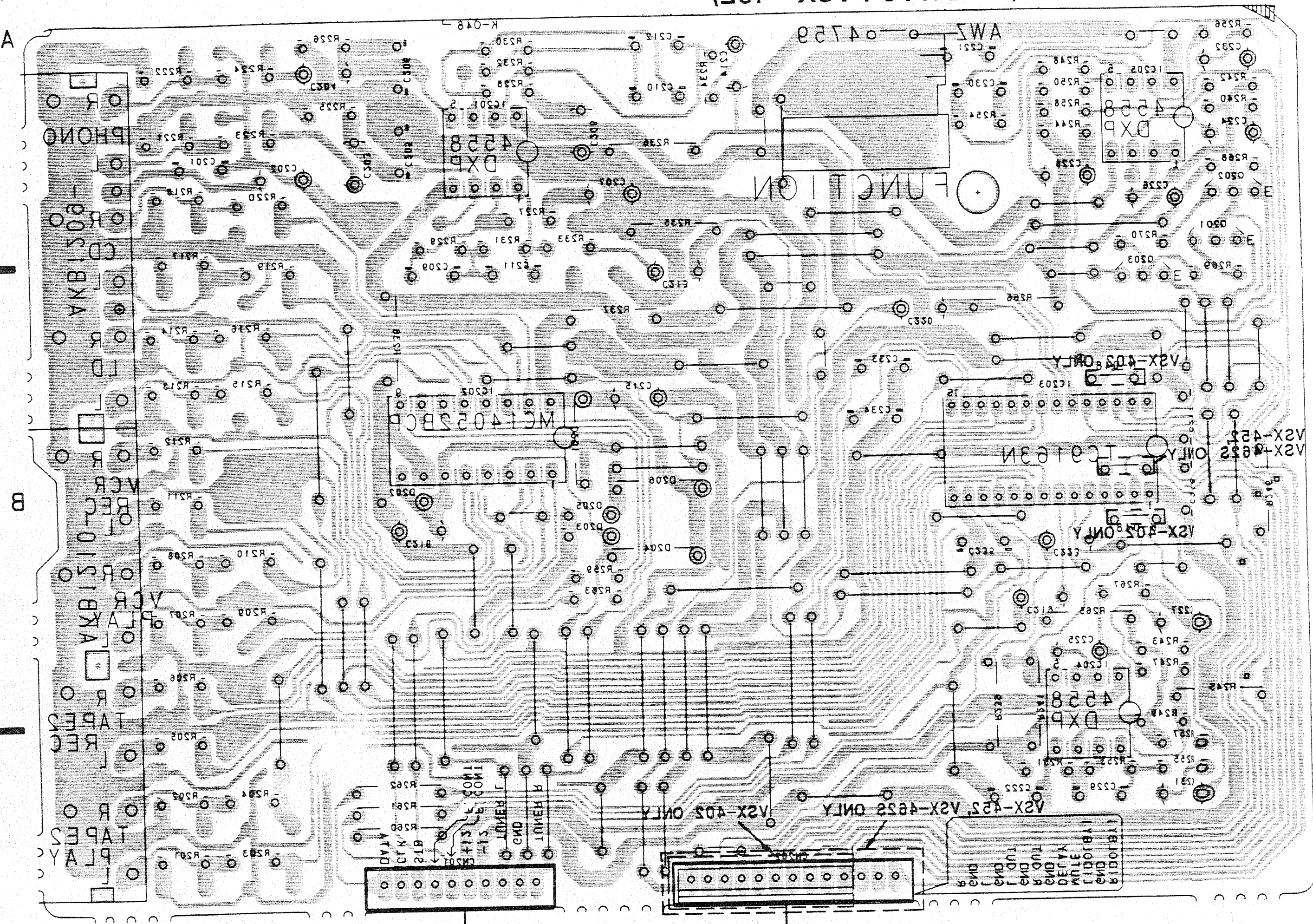
Q403 Q402 IC401 Q401

This PCB connection diagram is viewd from the parts mounted side.

Q202 Q201 IC205 Q203
IC204 IC203

IC201
IC202

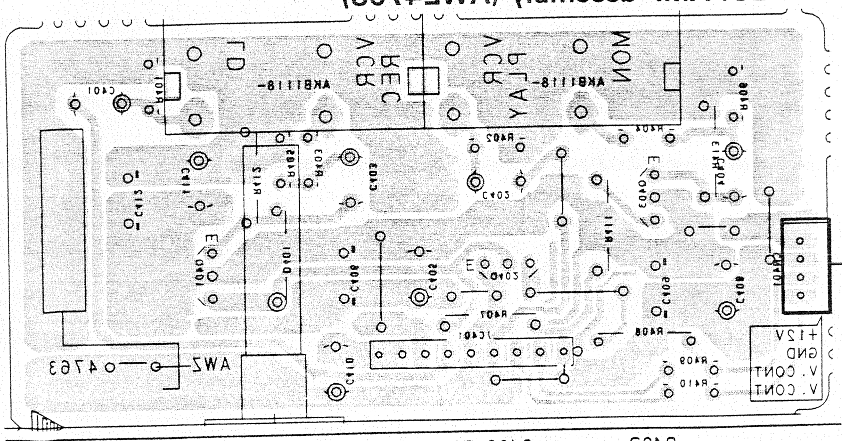
A. FUNC assembly (AWZ4759 : VSX-452, VSX-462S)
(AWZ4770 : VSX-402)


A
B
C
AWZ 4759
FUNCTION
PHONO
CD
LD
VCR REC
VCR PLAY
TAPE2 REC
TAPE2 PLAY
AKB1210-
4558 DXP
MC14052BCP
TC9163N
VSX-402 ONLY
VSX-452, VSX-462S ONLY
VSX-452, VSX-462S, VSX-402 ONLY
CN201
CN202
DATA
CLK
STB
+12
-12
GND
TUNER L
TUNER R
R GND
L GND
L OUT
R OUT
DELAY
MUTE
K-048

To MOTHER assembly CN721

To MOTHER assembly CN722

VIDEO. AMP assembly (AWZ4763)


D
LD
VCR REC
VCR PLAY
MON
AKB1118-
AWZ 4763
IC401
+12V
GND
V.CONT
V.CONT
CN401

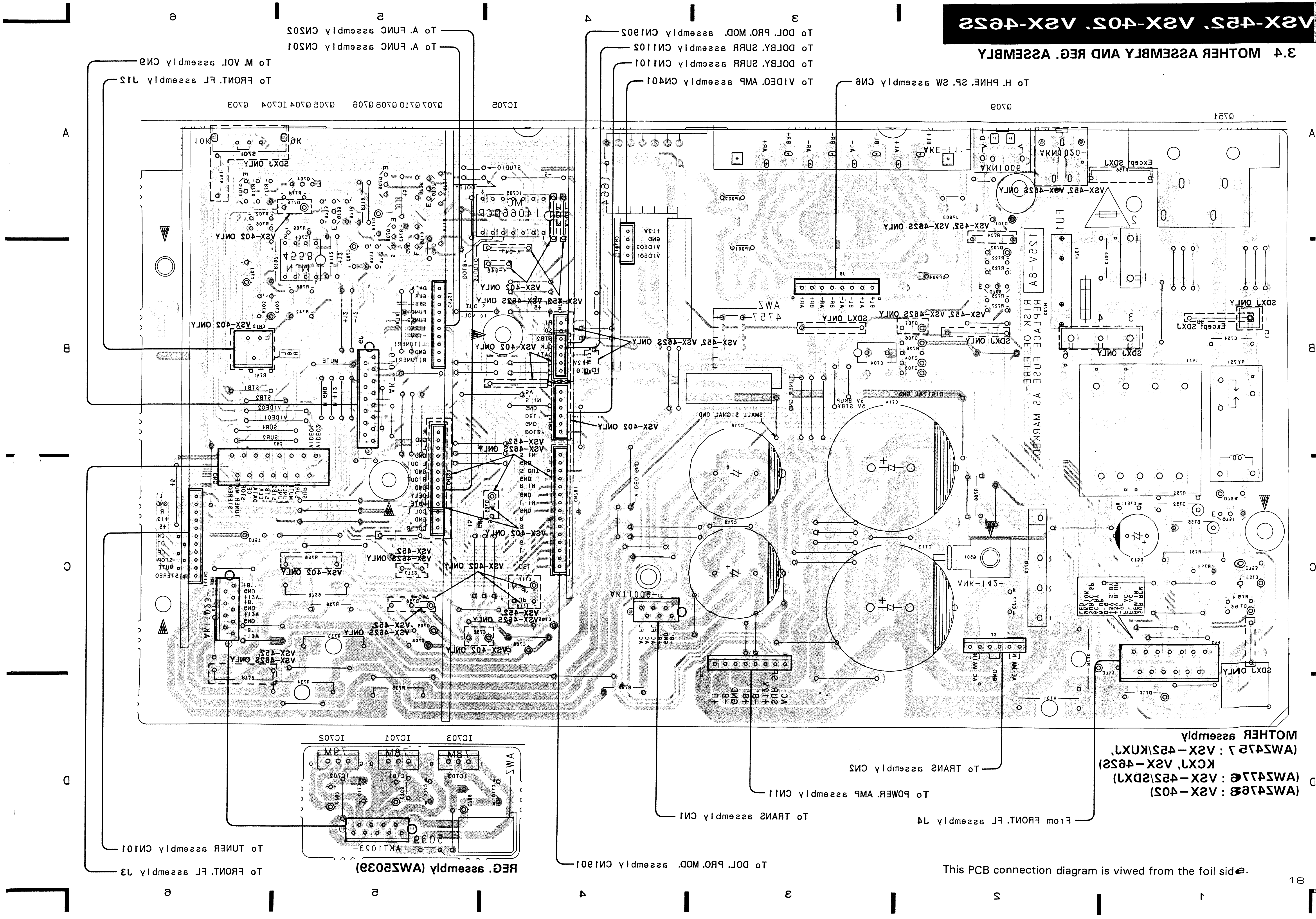
To MOTHER assembly CN741

Q401
Q402 IC401
Q403

This PCB connection diagram is viwed from the foil side.

3
2
1

3.4 MOTHER ASSEMBLY AND REG. ASSEMBLY


To A. FUNC assembly CN202
To A. FUNC assembly CN201
To M. VOL assembly CN9
To FRONT. FL assembly J12
To DOL. PRO. MOD. assembly CN1902
To DOLBY. SURR assembly CN1102
To DOLBY. SURR assembly CN1101
To VIDEO. AMP assembly CN401
To H. PHNE, SP. SW assembly CN6
To TRANS assembly CN2
To POWER. AMP assembly CN11
To TRANS assembly CN1
From FRONT. FL assembly J4
To TUNER assembly CN101
To FRONT. FL assembly J3
To DOL. PRO. MOD. assembly CN1901
VSX-402 ONLY
VSX-452, VSX-462S ONLY
SDXJ ONLY
Except SDXJ
RISK OF FIRE- REPLACE FUSE AS MARKED
DIGITAL GND
SMALL SIGNAL GND
IC701
IC702
IC703
IC705
AKT1023
AWZ4757
6
5
4
3
2
1
A
B
C
D

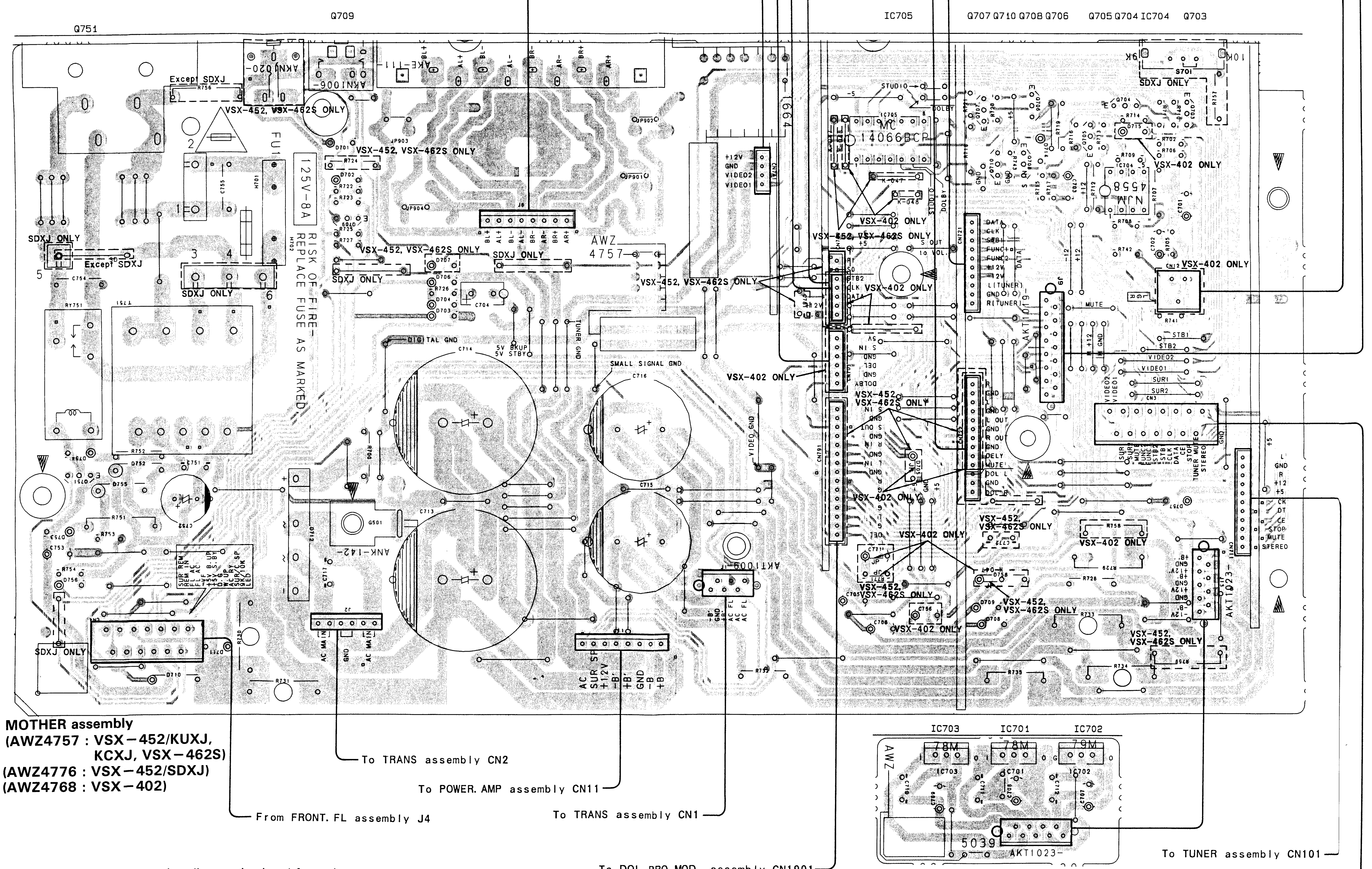
MOTHER assembly
(AWZ4757 : VSX-452/KUXJ, KCXJ, VSX-462S)
(AWZ4776 : VSX-452/SDXJ)
(AWZ4768 : VSX-402)

REG. assembly (AWZ5039)

This PCB connection diagram is viwed from the foil side.

3.4 MOTHER ASSEMBLY AND REG. ASSEMBLY

To DOL. PRO. MOD. assembly CN1902
To DOLBY. SURR assembly CN1102
To DOLBY. SURR assembly CN1101
To VIDEO. AMP assembly CN401
To H. PHNE, SP. SW assembly CN6
To A. FUNC assembly CN202
To A. FUNC assembly CN201
To M. VOL assembly CN9
To FRONT. FL assembly J12


1
2
3
4
5
6
A
B
C
D
Q751
Q709
IC705
Q707 Q710 Q708 Q706
Q705 Q704 IC704
Q703
Except SDXJ
VSX-452, VSX-462S ONLY
FU1
125V-8A
RISK OF FIRE-
REPLACE FUSE AS MARKED
SDXJ ONLY
Except SDXJ
AWZ 4757
DIGITAL GND
SMALL SIGNAL GND
MC 14066BCP
NJM 4558
VSX-402 ONLY
VSX-452, VSX-462S ONLY
S701
AKT1019
AKT1009
AKT1023
ANK-142
AC SUR SP +12V +B' -B' GND -B +B
AC MAIN GND AC MAIN
IC703
IC701
IC702
78M
78M
79M
AWZ 5039

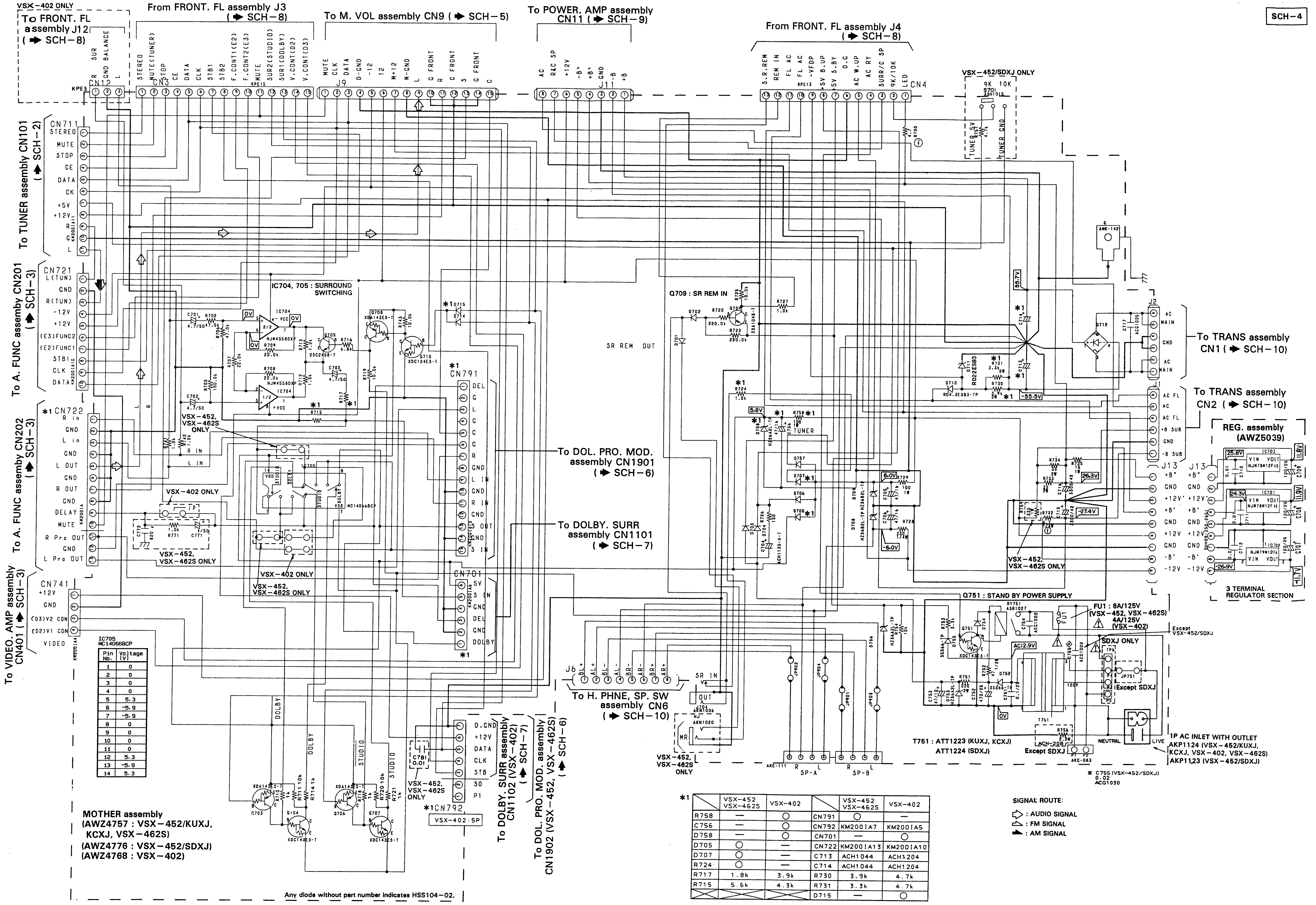
MOTHER assembly
(AWZ4757 : VSX−452/KUXJ, KCXJ, VSX−462S)
(AWZ4776 : VSX−452/SDXJ)
(AWZ4768 : VSX−402)

To TRANS assembly CN2
To POWER. AMP assembly CN11
To TRANS assembly CN1
From FRONT. FL assembly J4
To DOL. PRO. MOD. assembly CN1901
To TUNER assembly CN101
To FRONT. FL assembly J3

REG. assembly (AWZ5039)

This PCB connection diagram is viewd from the parts mounted side.

SCH-4


VSX-402 ONLY
To FRONT. FL assembly J12 (➡ SCH-8)
From FRONT. FL assembly J3 (➡ SCH-8)
To M. VOL assembly CN9 (➡ SCH-5)
To POWER. AMP assembly CN11 (➡ SCH-9)
From FRONT. FL assembly J4 (➡ SCH-8)
VSX-452/SDXJ ONLY
To TUNER assembly CN101 (⬆ SCH-2)
To A. FUNC assembly CN201 (⬆ SCH-3)
To A. FUNC assembly CN202 (⬆ SCH-3)
To VIDEO. AMP assembly CN401 (⬆ SCH-3)
CN711
CN721
*1 CN722
CN741
CN12
CN3
J9
J11
CN4
IC704, 705 : SURROUND SWITCHING
Q709 : SR REM IN
SR REM OUT
*1 CN791
To DOL. PRO. MOD. assembly CN1901 (➡ SCH-6)
To DOLBY. SURR assembly CN1101 (➡ SCH-7)
CN701
VSX-452, VSX-462S ONLY
VSX-402 ONLY
To TRANS assembly CN1 (➡ SCH-10)
To TRANS assembly CN2 (➡ SCH-10)
REG. assembly (AWZ5039)
3 TERMINAL REGULATOR SECTION
Q751 : STAND BY POWER SUPPLY
FU1 : 8A/125V (VSX-452, VSX-462S) 4A/125V (VSX-402)
Except VSX-452/SDXJ
SDXJ ONLY
Except SDXJ
1P AC INLET WITH OUTLET AKP1124 (VSX-452/KUXJ, KCXJ, VSX-402, VSX-462S) AKP1123 (VSX-462/SDXJ)
T751 : ATT1223 (KUXJ, KCXJ) ATT1224 (SDXJ)
※ C755 (VSX-452/SDXJ) 0.02 ACG1030
J6
To H. PHNE, SP. SW assembly CN6 (➡ SCH-10)
SP-A
SP-B
AKE-111
To DOLBY. SURR assembly CN1102 (VSX-402) (⬆ SCH-7)
To DOL. PRO. MOD. assembly CN1902 (VSX-452, VSX-462S) (⬆ SCH-6)
*1 CN792
VSX-402 : 5P
NEUTRAL
LIVE
SIGNAL ROUTE:
⇨ : AUDIO SIGNAL
⇨ : FM SIGNAL
➡ : AM SIGNAL

IC705
MC14066BCP

Pin No.	Voltage (V)
1	0
2	0
3	0
4	0
5	5.3
6	-5.9
7	-5.9
8	0
9	0
10	0
11	0
12	5.3
13	-5.9
14	5.3

MOTHER assembly
(AWZ4757 : VSX-452/KUXJ, KCXJ, VSX-462S)
(AWZ4776 : VSX-452/SDXJ)
(AWZ4768 : VSX-402)

Any diode without part number indicates HSS104-02.

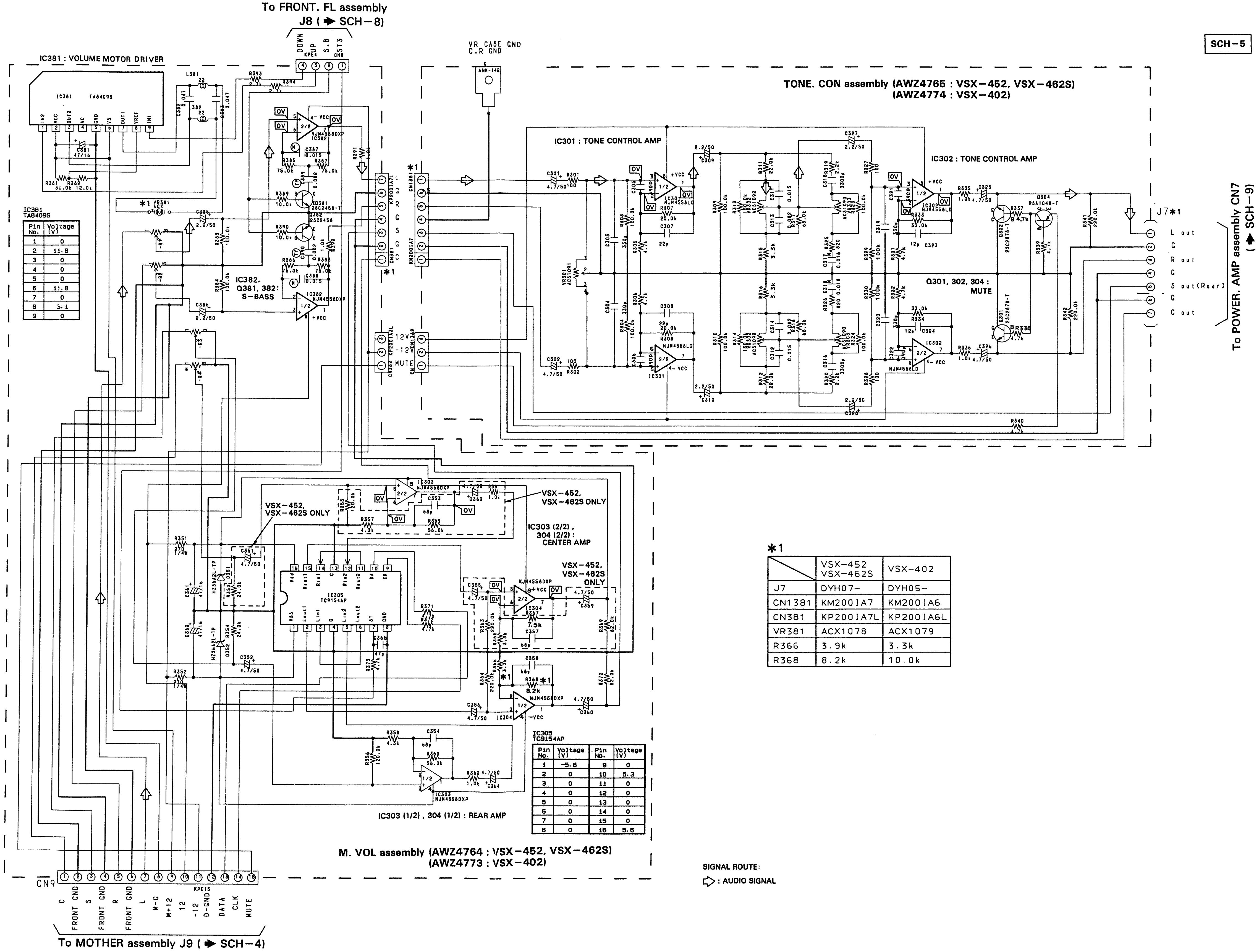
*1

	VSX-452 VSX-462S	VSX-402		VSX-452 VSX-462S	VSX-402
R758	—	○	CN791	○	—
C756	—	○	CN792	KM200IA7	KM200IA5
D758	—	○	CN701	—	○
D705	○	—	CN722	KM200IA13	KM200IA10
D707	○	—	C713	ACH1044	ACH1204
R724	○	—	C714	ACH1044	ACH1204
R717	1.8k	3.9k	R730	3.9k	4.7k
R715	5.6k	4.3k	R731	3.3k	4.7k
			D715	—	○

SCH-4 MOTHER ASSEMBLY, REG. ASSEMBLY

MOTHER ASSEMBLY, REG. ASSEMBLY SCH-4

3.5 TONE. CON ASSEMBLY AND M. VOL ASSEMBLY


To FRONT. FL assembly
J8 (➡ SCH-8)
DOWN
UP
S.B
ST3
CN8
KPE4
IC381 : VOLUME MOTOR DRIVER
IC381 TA8409S
VR CASE GND
C.R GND
ANK-142
TONE. CON assembly (AWZ4765 : VSX-452, VSX-462S)
(AWZ4774 : VSX-402)
IC301 : TONE CONTROL AMP
IC302 : TONE CONTROL AMP
NJM4558LD
NJM4558DXP
IC382, Q381, 382: S-BASS
CN381 KP200IA7L
CN1381 KM200IA7
KM200IA7
12V
-12V
MUTE
Q301, 302, 304 : MUTE
J7 ＊1
L out
G
R out
G
S out(Rear)
G
C out
To POWER. AMP assembly CN7 (➡ SCH-9)
VSX-452, VSX-462S ONLY
VSX-452, VSX-462S ONLY
IC303 (2/2), 304 (2/2) : CENTER AMP
VSX-452, VSX-462S ONLY
IC305 TC9154AP
IC303 (1/2), 304 (1/2) : REAR AMP
M. VOL assembly (AWZ4764 : VSX-452, VSX-462S)
(AWZ4773 : VSX-402)
CN9
KPE15
C
FRONT GND
S
FRONT GND
R
FRONT GND
L
M-C
M+12
12
-12
D-GND
DATA
CLK
MUTE
To MOTHER assembly J9 (➡ SCH-4)

IC381
TA8409S

Pin No.	Voltage (V)
1	0
2	11.8
3	0
4	0
5	0
6	11.8
7	0
8	3.1
9	0

＊1

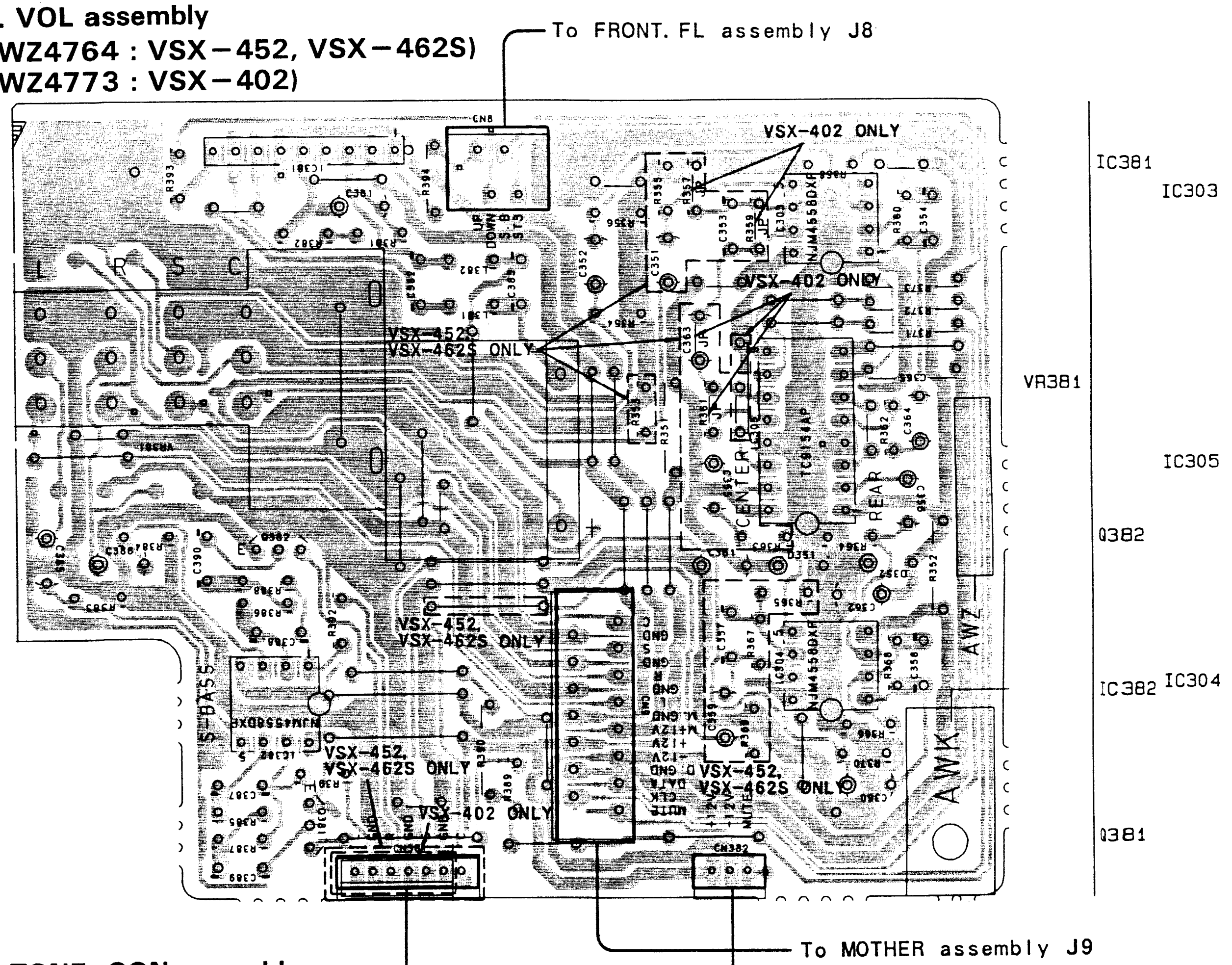
	VSX-452 VSX-462S	VSX-402
J7	DYH07-	DYH05-
CN1381	KM200IA7	KM200IA6
CN381	KP200IA7L	KP200IA6L
VR381	ACX1078	ACX1079
R366	3.9k	3.3k
R368	8.2k	10.0k

IC305
TC9154AP

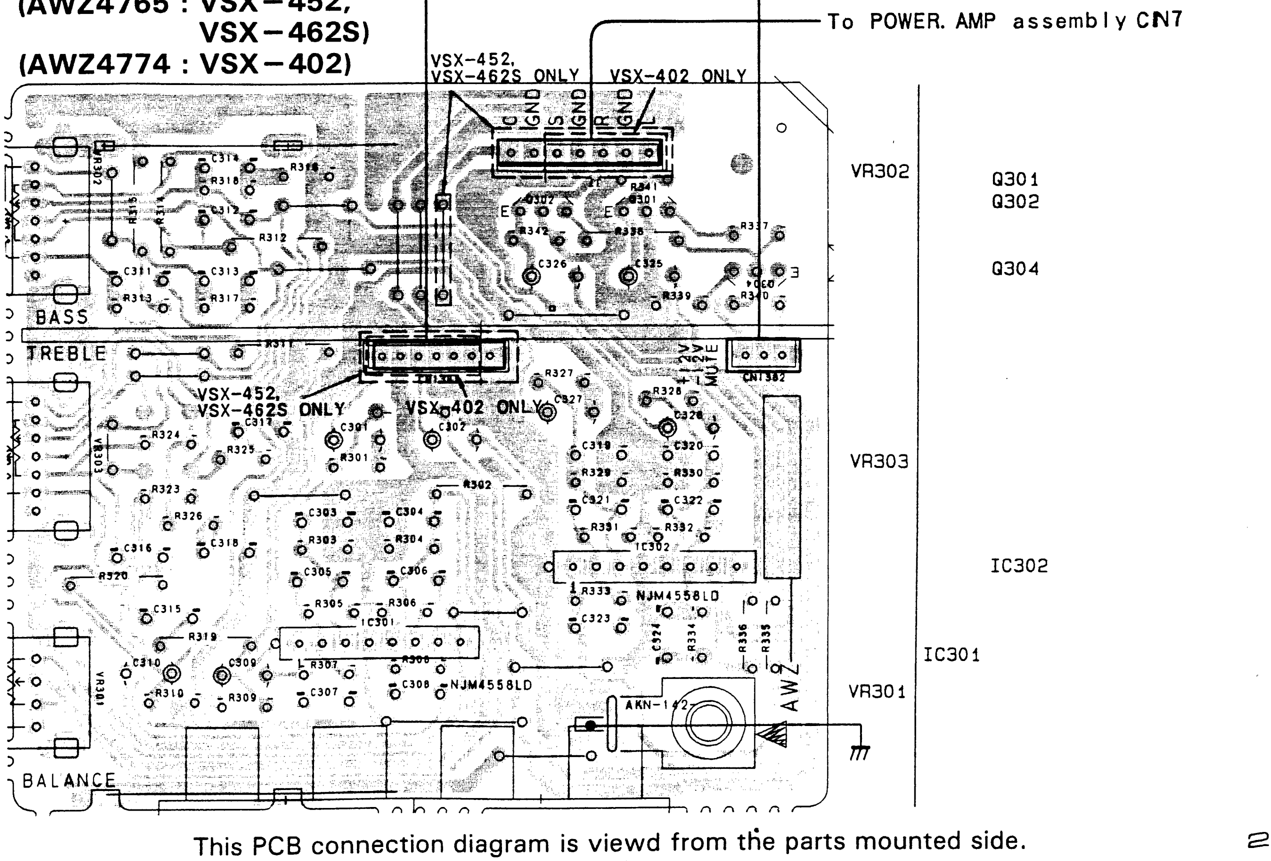
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	-5.6	9	0
2	0	10	5.3
3	0	11	0
4	0	12	0
5	0	13	0
6	0	14	0
7	0	15	0
8	0	16	5.6

SIGNAL ROUTE:
⇨ : AUDIO SIGNAL

M. VOL assembly
(AWZ4764 : VSX−452, VSX−462S)
(AWZ4773 : VSX−402)


To FRONT. FL assembly J8
VSX-402 ONLY
VSX-402 ONLY
VSX-452, VSX-462S ONLY
VSX-452, VSX-462S ONLY
VSX-452, VSX-462S ONLY
VSX-402 ONLY
VSX-452, VSX-462S ONLY
L
R
S
C
CENTER
REAR
S-BASS
NJM4558DXE
NJM4558DXF
TC9154AP
AWZ
AWK
CN8
CN382
UP
DOWN
GND
M.GND
+12V
-12V
DATA
CLK
MUTE
IC381
IC303
VR381
IC305
Q382
IC382
IC304
Q381
To MOTHER assembly J9

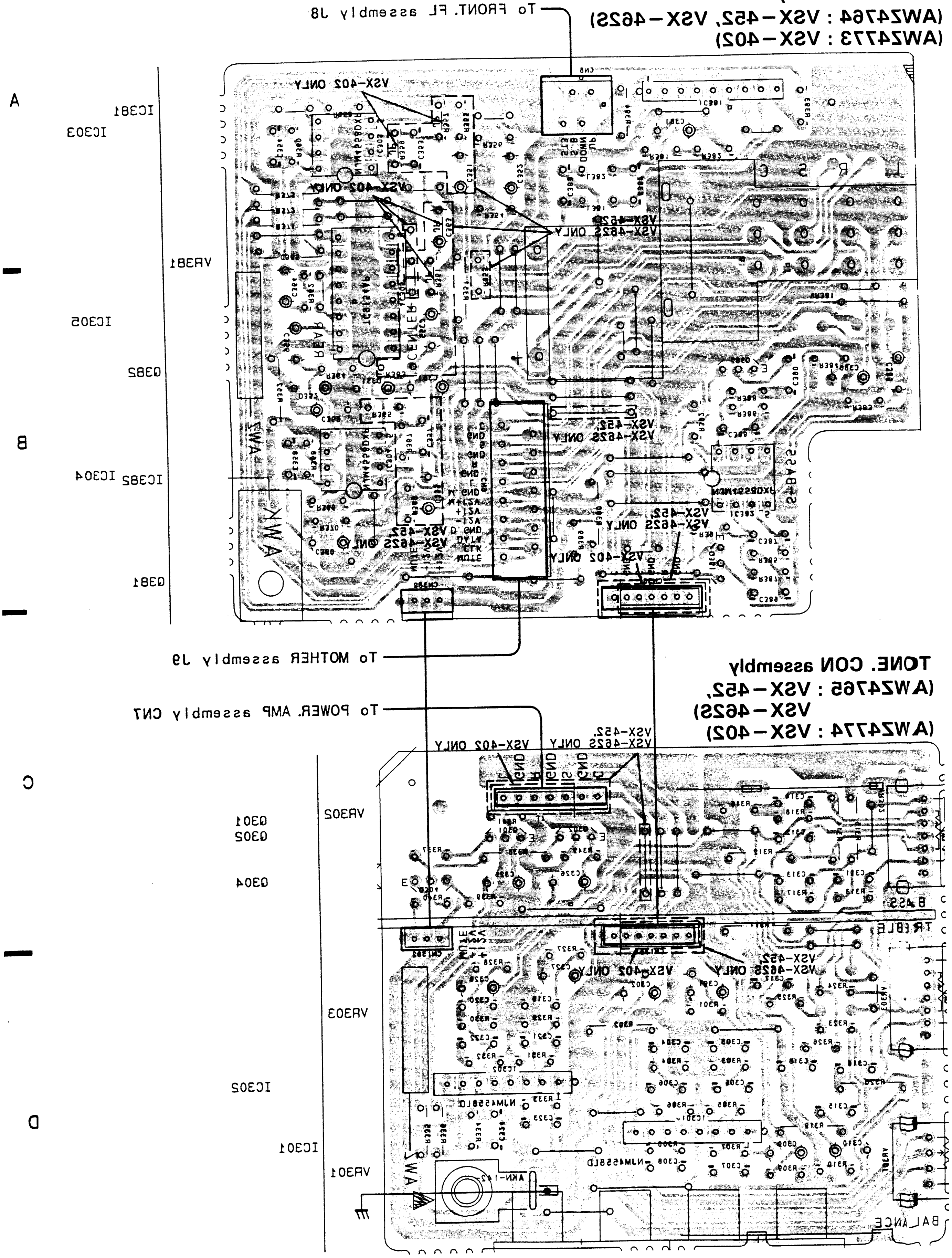
TONE. CON assembly
(AWZ4765 : VSX−452, VSX−462S)
(AWZ4774 : VSX−402)


To POWER. AMP assembly CN7
VSX-452, VSX-462S ONLY
VSX-402 ONLY
C
GND
S
GND
R
GND
L
BASS
TREBLE
BALANCE
VSX-452, VSX-462S ONLY
VSX-402 ONLY
+12V
-12V
MUTE
CN1382
NJM4558LD
NJM4558LD
AKN-142
AWZ
VR302
Q301
Q302
Q304
VR303
IC302
IC301
VR301

This PCB connection diagram is viewd from the parts mounted side.

M. VOL assembly
(AWZ4764 : VSX-452, VSX-462S)
(AWZ4773 : VSX-402)

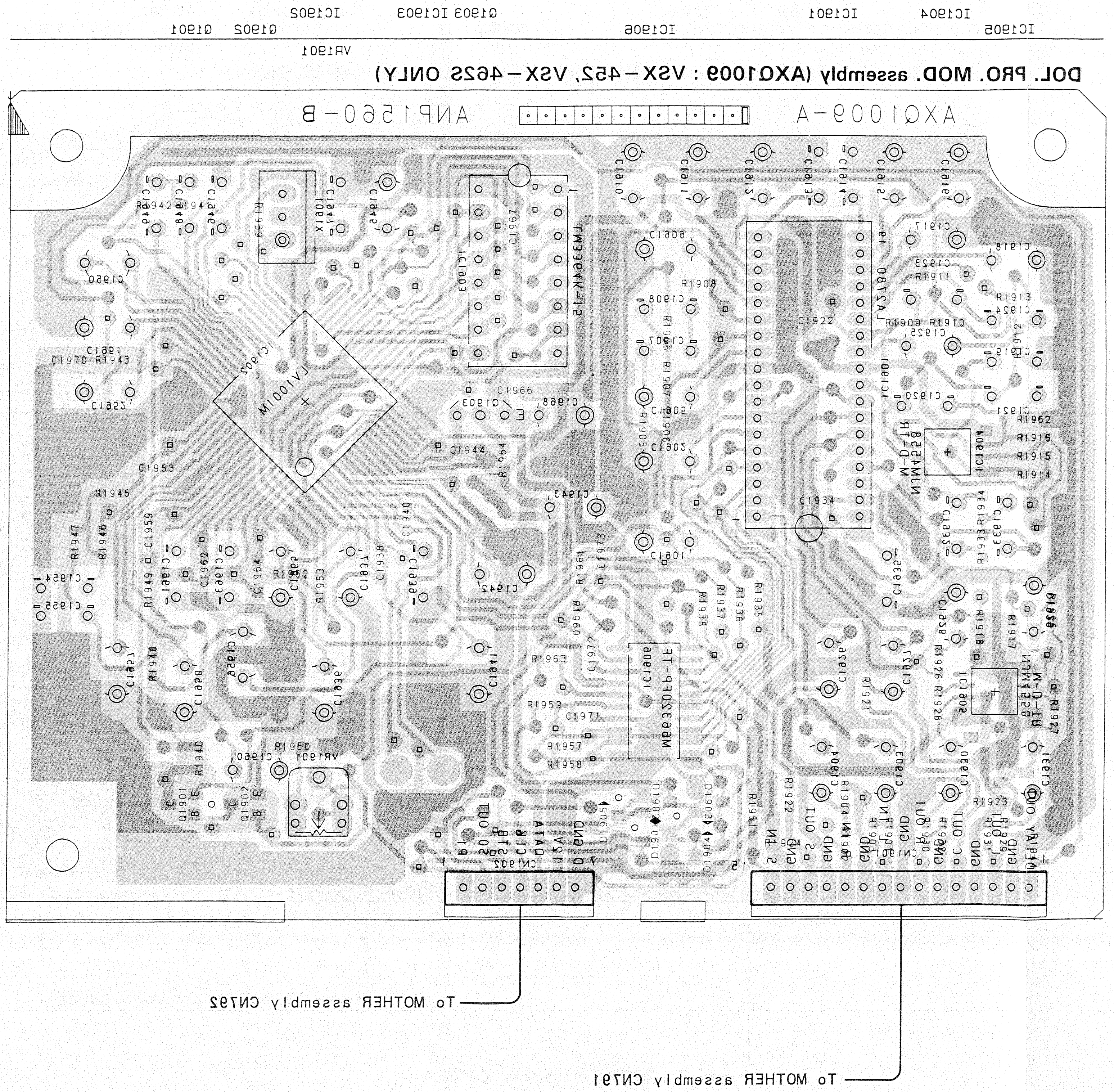
TONE. CON assembly
(AWZ4765 : VSX-452, VSX-462S)
(AWZ4774 : VSX-402)


To FRONT. FL assembly J8
To MOTHER assembly J9
To POWER. AMP assembly CN7
VSX-402 ONLY
VSX-452, VSX-462S ONLY
IC381
IC303
VR381
IC305
Q382
IC382
IC304
Q381
AWZ
CENTER
REAR
VR302
Q301
Q302
Q304
VR303
IC302
IC301
VR301
AKN-142
NJM4558LD
BASS
TREBLE
BALANCE
A
B
C
D
1
2
3

This PCB connection diagram is viwed from the foil side.

3.6 DOL. PRO. MOD. ASSEMBLY

This PCB connection diagram is viwed from the foil side.


DOL. PRO. MOD. assembly (AXQ1009 : VSX-452, VSX-462S ONLY)

Q1901
Q1902
IC1902
VR1901
Q1903 IC1903
IC1906
IC1901
IC1904
IC1905
ANP1560-B
AXQ1009-A
To MOTHER assembly CN792
To MOTHER assembly CN791

3.6 DOL. PRO. MOD. ASSEMBLY

This PCB connection diagram is viewd from the parts mounted side.

A

B

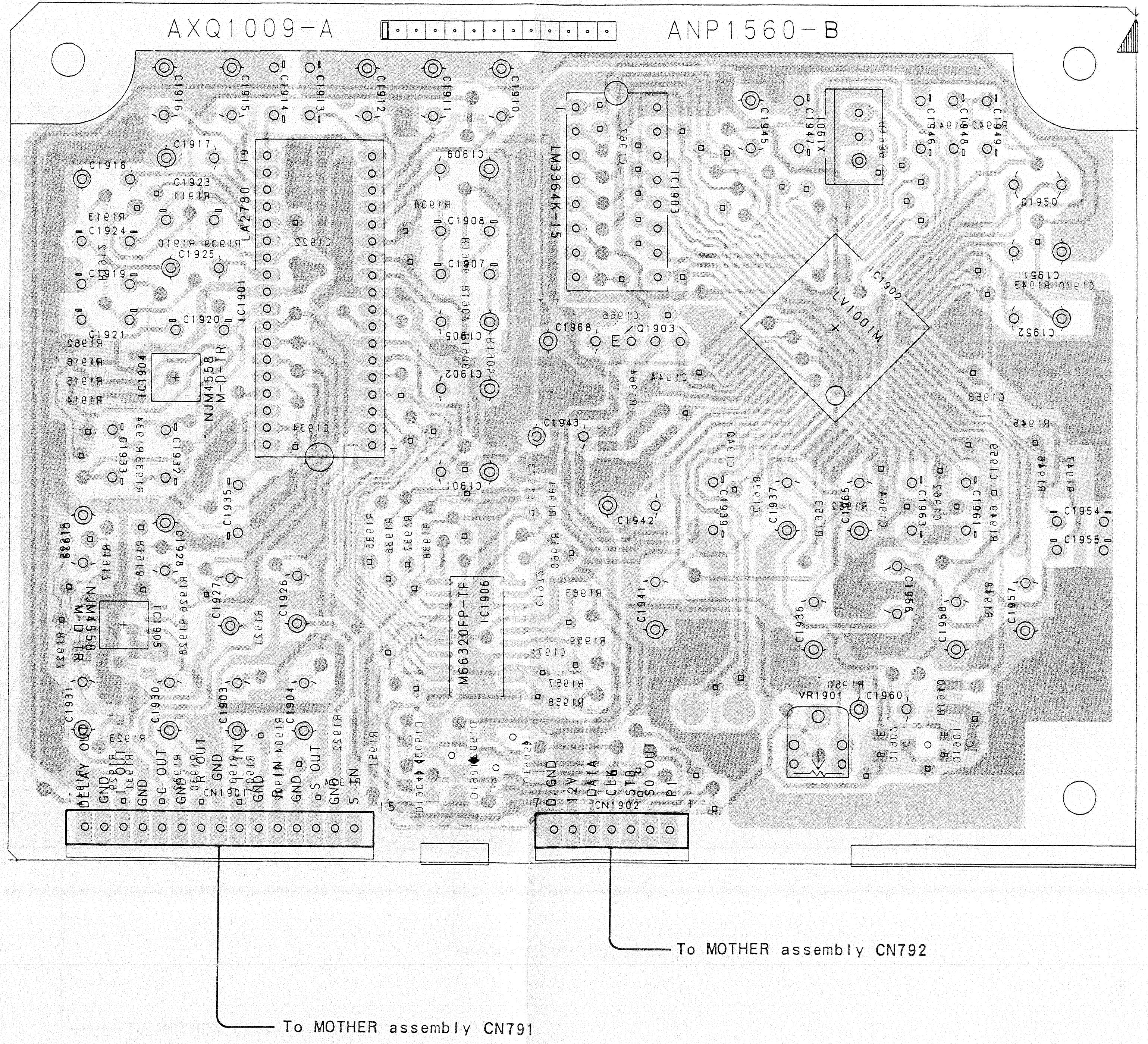
C

D

IC1905 IC1904 IC1901 IC1906 Q1903 IC1903 IC1902 Q1902 Q1901

VR1901

DOL. PRO. MOD. assembly (AXQ1009 : VSX−452, VSX−462S ONLY)


AXQ1009−A
ANP1560−B
LA2780
LM3364K−5
LV1001M
NJM4558M−D−TR
M66320FP−TF
CN1901
DELAY OUT
GND
L OUT
GND
C OUT
GND
R OUT
GND
L IN
GND
R IN
GND
S OUT
GND
S IN
1
15
CN1902
7
D.GND
12V
DATA
CLK
STB
S0 OUT
P1
1
VR1901

To MOTHER assembly CN792

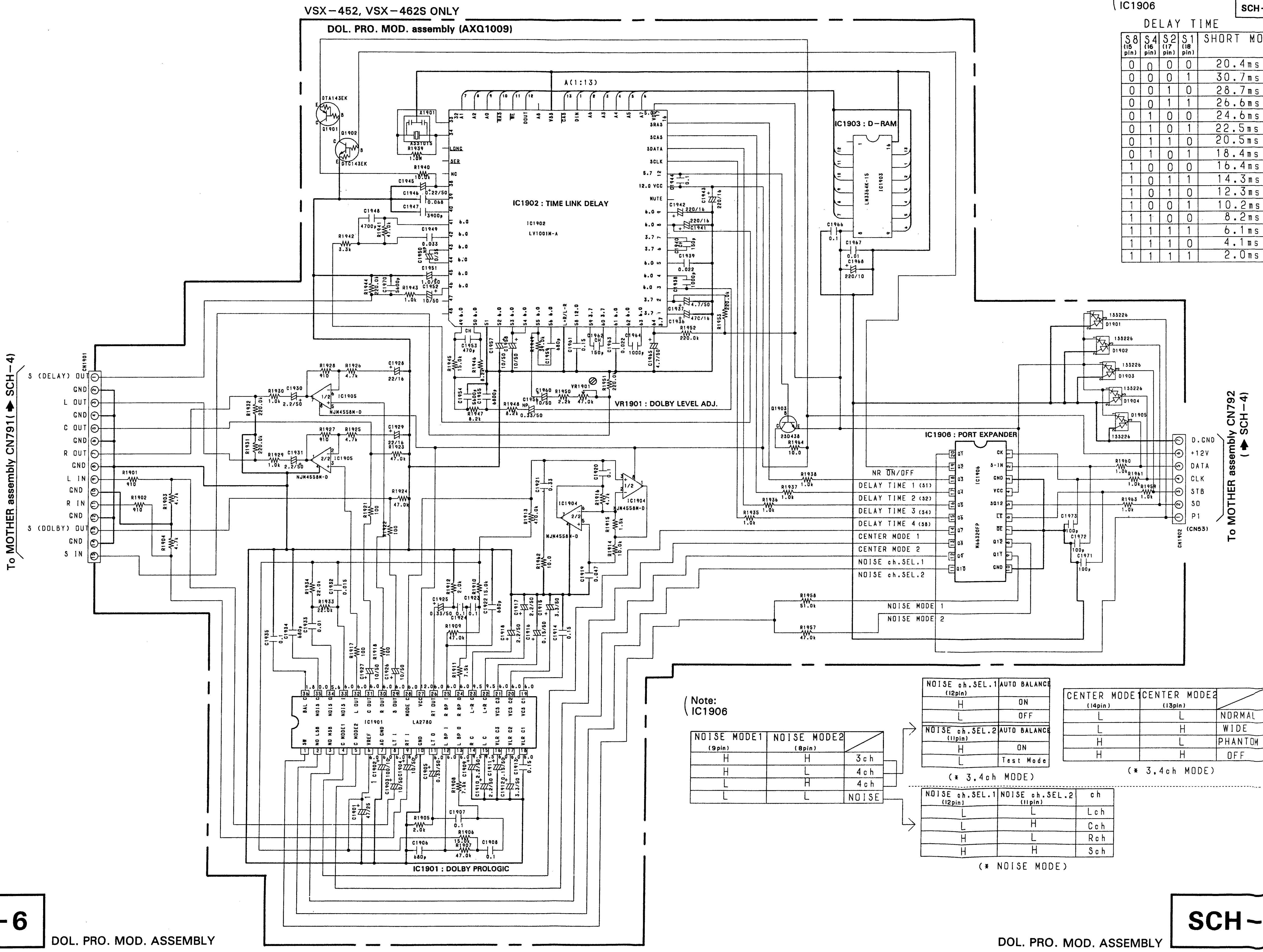
To MOTHER assembly CN791

A

B

C

D


VSX-452, VSX-462S ONLY
DOL. PRO. MOD. assembly (AXQ1009)
IC1902 : TIME LINK DELAY
LV1001M-A
IC1903 : D-RAM
IC1906 : PORT EXPANDER
M66320FP
IC1901 : DOLBY PROLOGIC
LA2780
IC1904
IC1905
NJM4558M-D
VR1901 : DOLBY LEVEL ADJ.
Q1901 DTA143EK
Q1902 DTC143EK
Q1903 2SD438
X1901
D1901
D1902
D1903
D1904
D1905
1SS226
CN1901
CN1902
(CN53)
S (DELAY) OUT
GND
L OUT
GND
C OUT
GND
R OUT
GND
L IN
GND
R IN
GND
S (DOLBY) OUT
GND
S IN
To MOTHER assembly CN791 (→ SCH-4)
To MOTHER assembly CN792 (→ SCH-4)
D.GND
+12V
DATA
CLK
STB
SO
P1
NR ON/OFF
DELAY TIME 1 (S1)
DELAY TIME 2 (S2)
DELAY TIME 3 (S4)
DELAY TIME 4 (S8)
CENTER MODE 1
CENTER MODE 2
NOISE ch.SEL.1
NOISE ch.SEL.2
NOISE MODE 1
NOISE MODE 2
A(1:13)
SRAS
SCAS
SDATA
SCLK
MUTE
LONG
SER
NC
CK
S-IN
GND
VCC
SO12
LE
OE
Q12
Q1T
R1957 47.0k
R1958 51.0k

SCH-6

DOL. PRO. MOD. ASSEMBLY

(Note: IC1906

DELAY TIME

S8 (15 pin)	S4 (16 pin)	S2 (17 pin)	S1 (18 pin)	SHORT MODE
0	0	0	0	20.4ms
0	0	0	1	30.7ms
0	0	1	0	28.7ms
0	0	1	1	26.6ms
0	1	0	0	24.6ms
0	1	0	1	22.5ms
0	1	1	0	20.5ms
0	1	0	1	18.4ms
1	0	0	0	16.4ms
1	0	1	1	14.3ms
1	0	1	0	12.3ms
1	0	0	1	10.2ms
1	1	0	0	8.2ms
1	1	1	1	6.1ms
1	1	1	0	4.1ms
1	1	1	1	2.0ms

(Note: IC1906

NOISE MODE1 (9pin)	NOISE MODE2 (8pin)	
H	H	3ch
H	L	4ch
L	H	4ch
L	L	NOISE

NOISE ch.SEL.1 (12pin)	AUTO BALANCE
H	ON
L	OFF

NOISE ch.SEL.2 (11pin)	AUTO BALANCE
H	ON
L	Test Mode

(* 3,4ch MODE)

CENTER MODE1 (14pin)	CENTER MODE2 (13pin)	
L	L	NORMAL
L	H	WIDE
H	L	PHANTOM
H	H	OFF

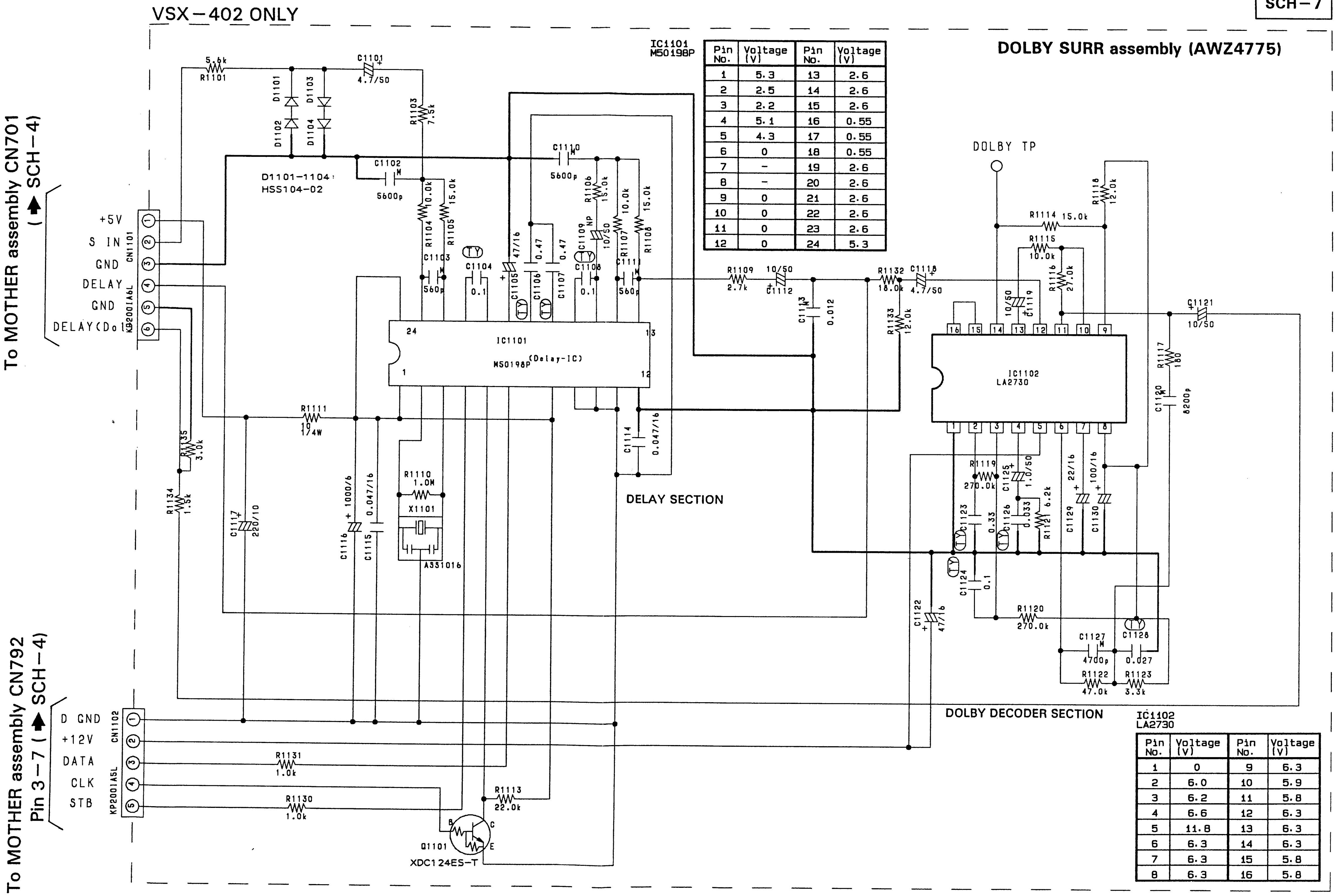
(* 3,4ch MODE)

NOISE ch.SEL.1 (12pin)	NOISE ch.SEL.2 (11pin)	ch
L	L	Lch
L	H	Cch
H	L	Rch
H	H	Sch

(* NOISE MODE)

3.7 DOLBY SURR ASSEMBLY

SCH-7


VSX-402 ONLY
DOLBY SURR assembly (AWZ4775)
To MOTHER assembly CN701 (➡ SCH-4)
To MOTHER assembly CN792 Pin 3-7 (➡ SCH-4)
+5V
S IN
GND
DELAY
GND
DELAY(Do)
CN1101
KP200IA6L
D GND
+12V
DATA
CLK
STB
CN1102
KP200IA5L
5.6k
R1101
C1101
4.7/50
D1101
D1102
D1103
D1104
D1101-1104:
HSS104-02
R1103
7.5k
C1102
5600p
R1104
10.0k
R1105
15.0k
C1103
560p
C1104
0.1
C1105
47/16
C1106
0.47
C1107
0.47
C1108
0.1
C1109
10/50
NP
C1110
5600p
R1106
15.0k
R1107
10.0k
R1108
15.0k
C1111
560p
IC1101
M50198P
(Delay-IC)
24
1
13
12
R1111
10
1/4W
R1135
3.0k
R1134
1.5k
C1117
220/10
C1116
1000/6
C1115
0.047/16
R1110
1.0M
X1101
A331016
C1114
0.047/16
DELAY SECTION
R1109
2.7k
C1112
10/50
C1113
0.012
R1132
18.0k
C1118
4.7/50
R1133
12.0k
DOLBY TP
R1114 15.0k
R1115
10.0k
R1116
27.0k
R1118
12.0k
C1119
10/50
IC1102
LA2730
16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
C1121
10/50
R1117
180
C1120
8200p
R1119
270.0k
C1125
1.0/50
R1121 6.2k
C1123
0.33
C1126
0.033
C1129
22/16
C1130
100/16
C1124
0.1
C1122
47/16
R1120
270.0k
C1127
4700p
C1128
0.027
R1122
47.0k
R1123
3.3k
DOLBY DECODER SECTION
R1131
1.0k
R1130
1.0k
R1113
22.0k
Q1101
XDC124ES-T
B
C
E

IC1101
M50198P

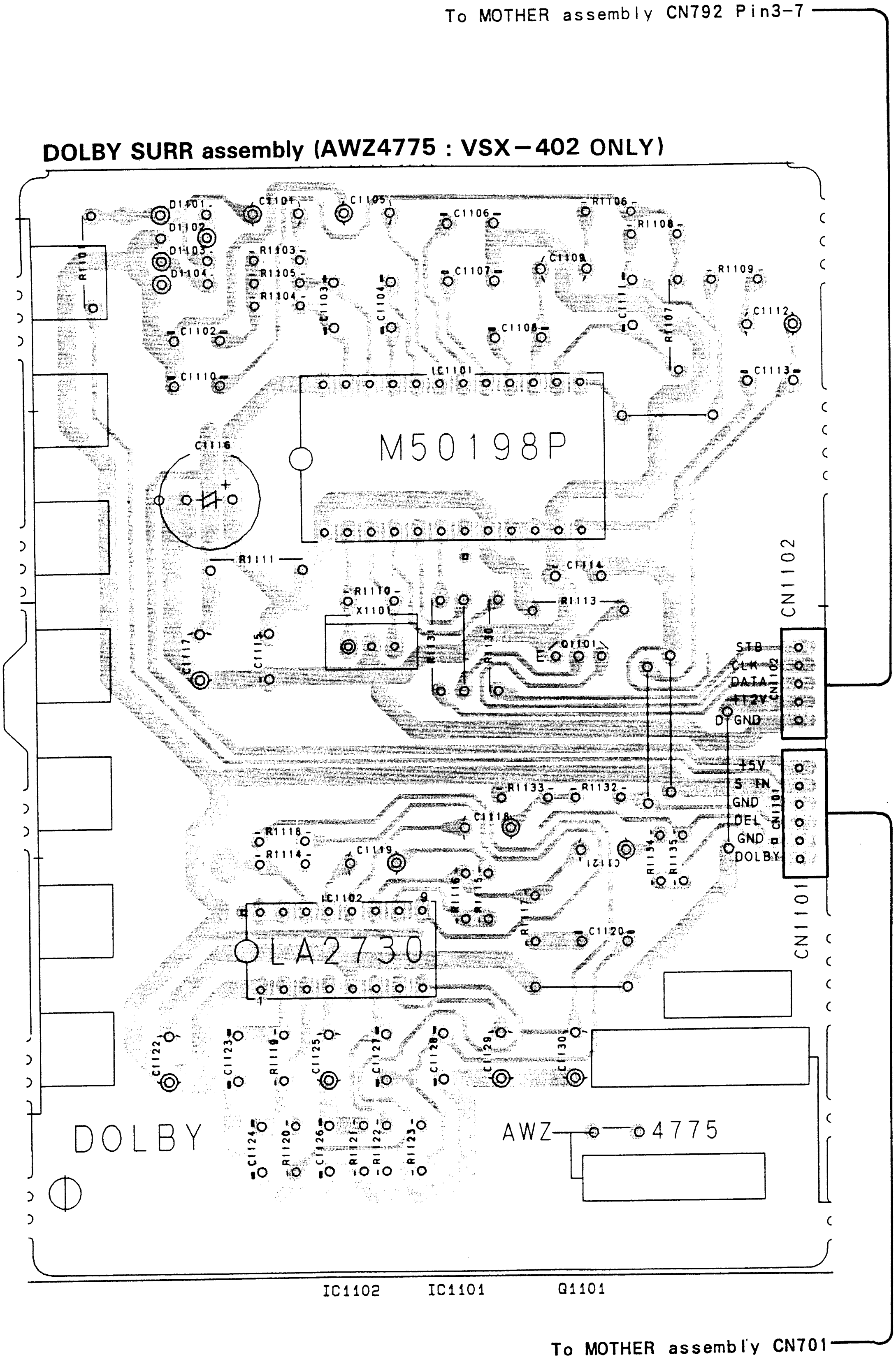
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	5.3	13	2.6
2	2.5	14	2.6
3	2.2	15	2.6
4	5.1	16	0.55
5	4.3	17	0.55
6	0	18	0.55
7	-	19	2.6
8	-	20	2.6
9	0	21	2.6
10	0	22	2.6
11	0	23	2.6
12	0	24	5.3

IC1102
LA2730

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	0	9	6.3
2	6.0	10	5.9
3	6.2	11	5.8
4	6.6	12	6.3
5	11.8	13	6.3
6	6.3	14	6.3
7	6.3	15	5.8
8	6.3	16	5.8

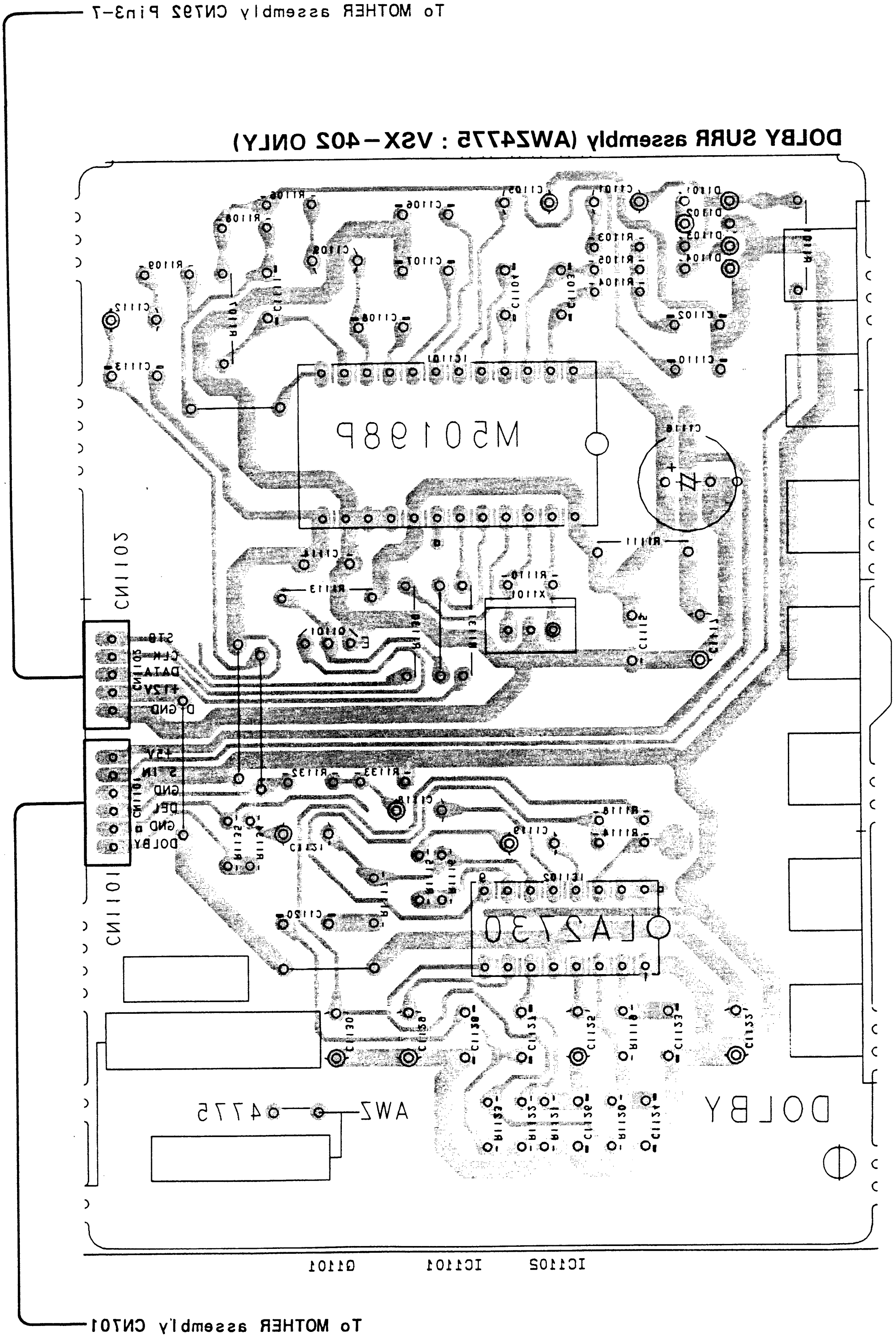
This PCB connection diagram is viewd from the parts mounted side.

DOLBY SURR assembly (AWZ4775 : VSX-402 ONLY)


To MOTHER assembly CN792 Pin3-7
D1101
D1102
D1103
D1104
C1101
C1105
C1106
R1106
R1108
R1101
R1103
R1105
R1104
C1103
C1104
C1107
C1109
C1111
R1109
R1107
C1112
C1102
C1108
C1110
IC1101
C1113
M50198P
C1116
R1111
C1114
R1110
X1101
R1113
C1117
C1115
R1131
R1130
Q1101
E
CN1102
STB
CLK
DATA
+12V
D GND
+5V
S IN
GND
DEL
GND
DOLBY
CN1101
R1133
R1132
C1118
R1118
R1114
C1119
C1121
R1134
R1135
IC1102
R1116
R1115
R1117
C1120
LA2730
C1122
C1123
R1119
C1125
C1127
C1128
C1129
C1130
DOLBY
C1124
R1120
C1126
R1121
R1122
R1123
AWZ 4775
IC1102
IC1101
Q1101
To MOTHER assembly CN701

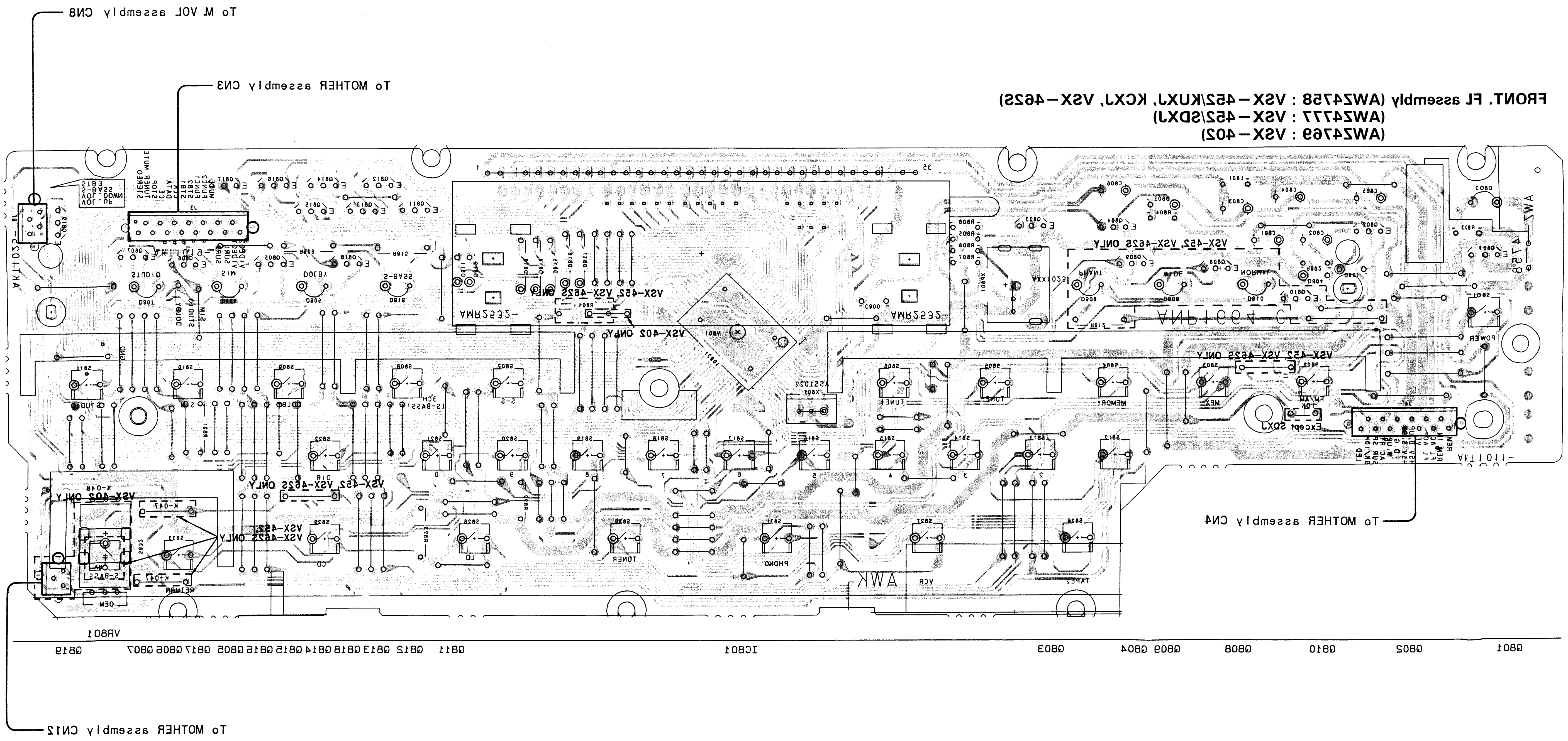
This PCB connection diagram is viwed from the foil side.

DOLBY SURR assembly (AWZ4775 : VSX-402 ONLY)


To MOTHER assembly CN792 Pin3-7
A
B
C
D
M50198P
IC1101
LA2730
IC1102
CN1102
STB
CLK
DATA
+12V
D GND
CN1101
+5V
S IN
GND
DEL
GND
DOLBY
X1101
Q1101
AWZ 4775
DOLBY
IC1102 IC1101 Q1101
To MOTHER assembly CN701

3.8 FRONT. FL ASSEMBLY

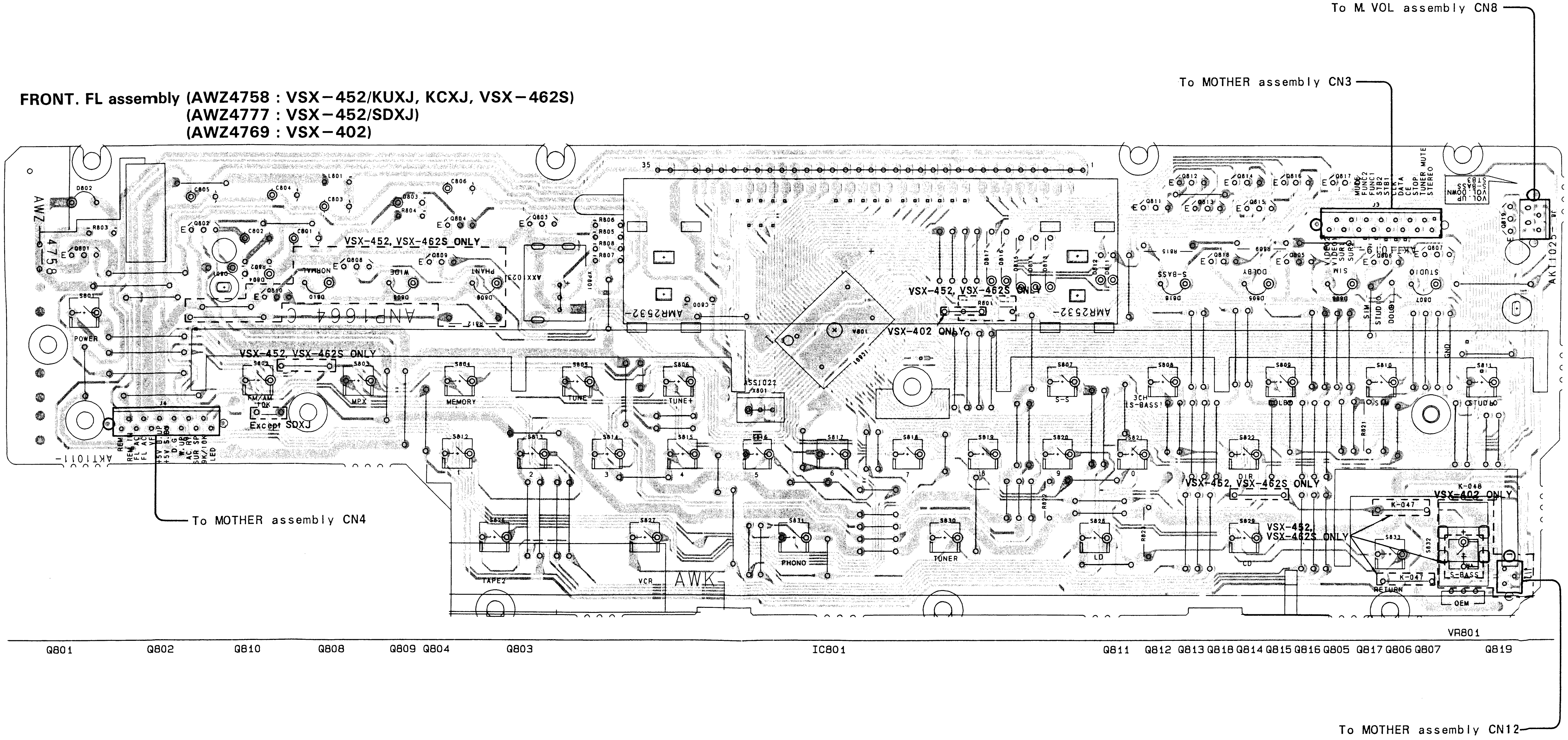
This PCB connection diagram is viwed from the foil side.

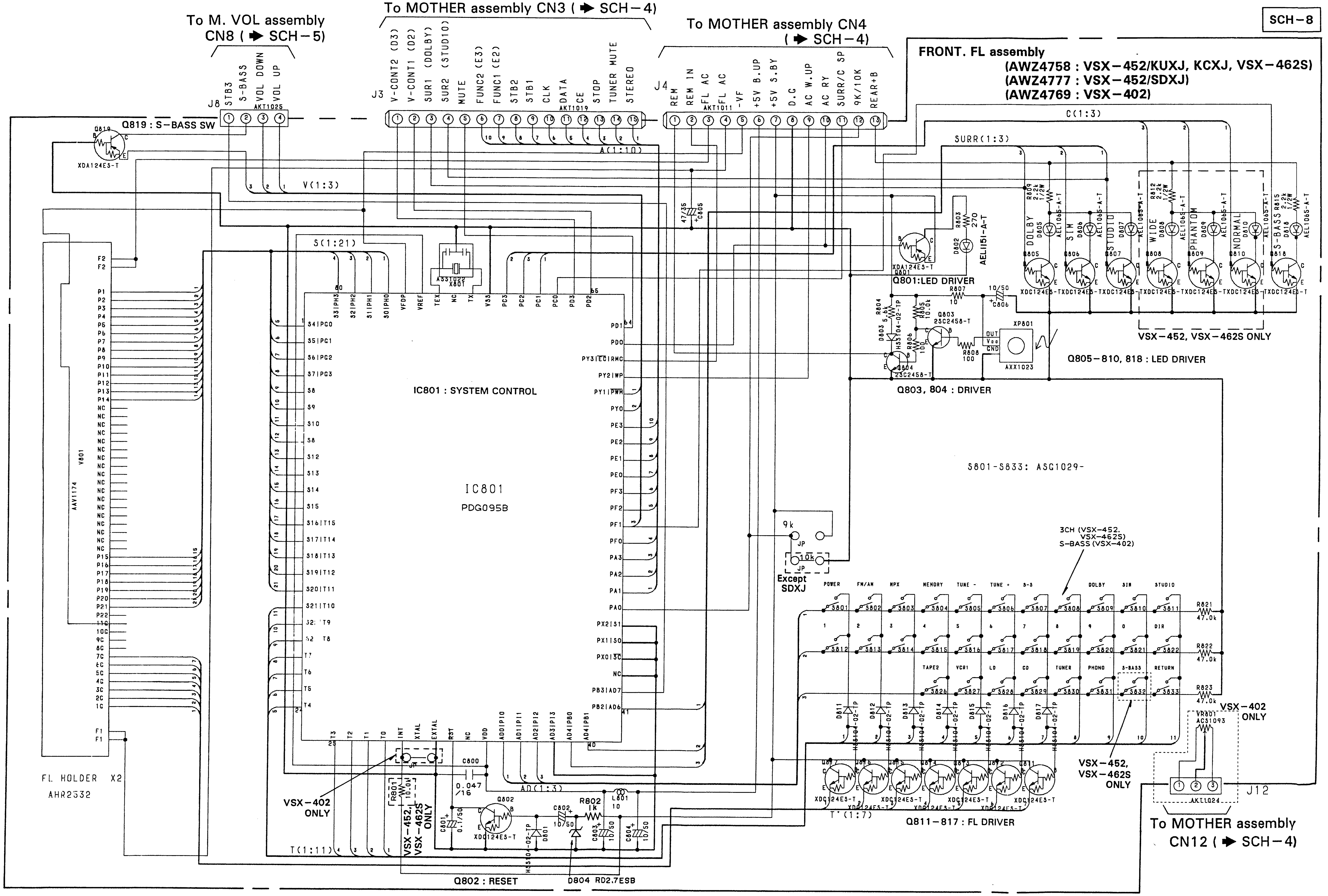

To M. VOL assembly CN8
To MOTHER assembly CN3
FRONT. FL assembly (AWZ4758 : VSX−452/KUXJ, KCXJ, VSX−462S)
(AWZ4777 : VSX−452/SDXJ)
(AWZ4769 : VSX−402)
VSX-452, VSX-462S ONLY
VSX-402 ONLY
Except SDXJ
POWER
TUNE+
TUNE−
MEMORY
MPX
FM/AM
TAPE2
VCR
PHONO
TUNER
LD
CD
RETURN
S-BASS
DEM
IC801
VR801
To MOTHER assembly CN4
To MOTHER assembly CN12
Q801
Q802
Q810
Q808
Q809
Q804
Q803
Q811
Q812
Q813
Q818
Q814
Q815
Q816
Q805
Q817
Q806
Q807
Q819

3.8 FRONT. FL ASSEMBLY

This PCB connection diagram is viewd from the parts mounted side.

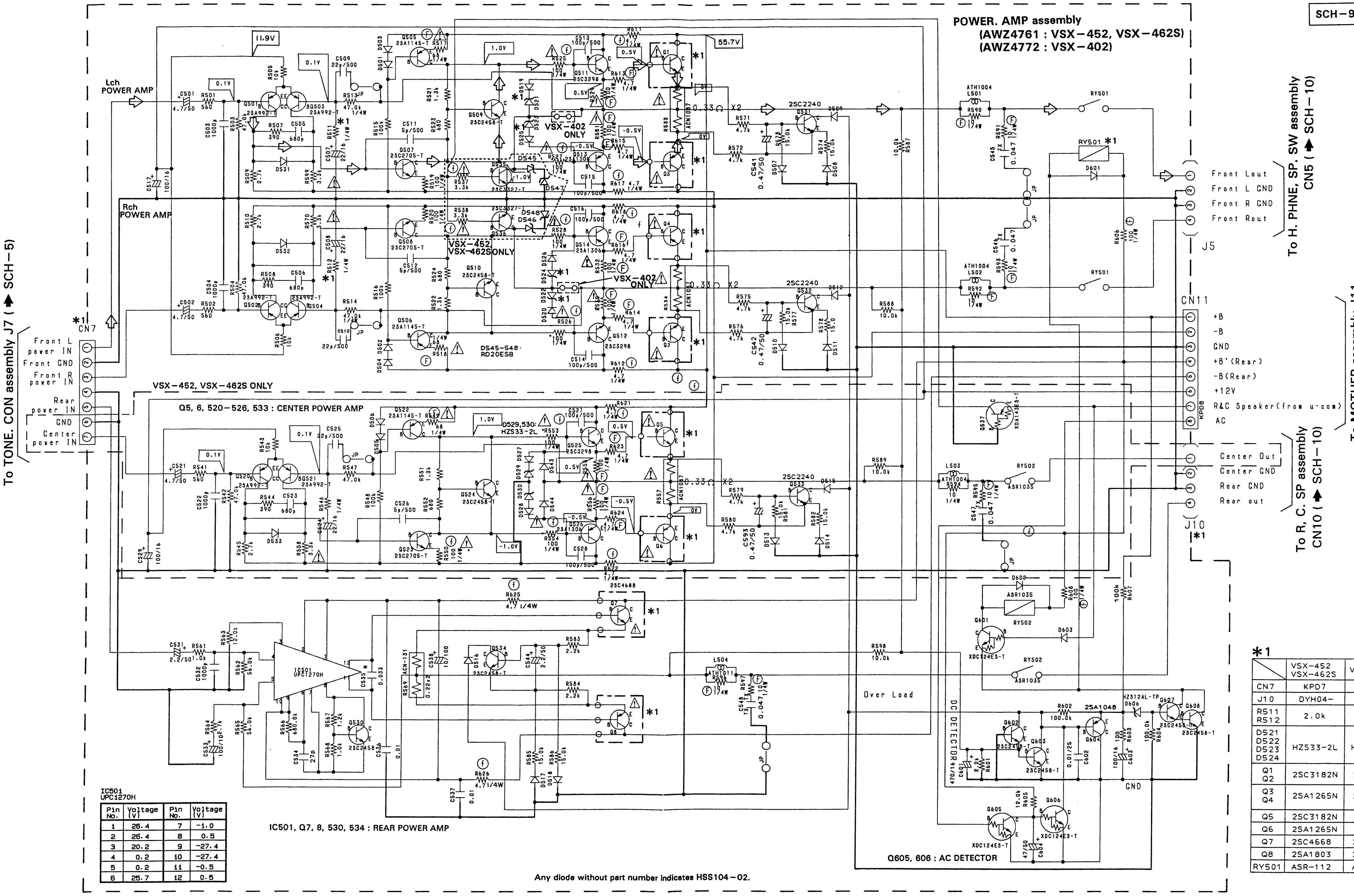
FRONT. FL assembly (AWZ4758 : VSX−452/KUXJ, KCXJ, VSX−462S)
(AWZ4777 : VSX−452/SDXJ)
(AWZ4769 : VSX−402)


To M. VOL assembly CN8
To MOTHER assembly CN3
To MOTHER assembly CN4
To MOTHER assembly CN12
AWZ4758
AKT1011
AKT1025
ANP1664
AMR2532
AXX1023
ASS1027
AWK
VSX-452, VSX-462S ONLY
VSX-402 ONLY
Except SDXJ
VSX-452, VSX-462S ONLY
POWER
AM/AM TOK
MPX
MEMORY
TUNE−
TUNE+
S-S
3CH (S-BASS)
DOLBY
SIM
STUDIO
NORMAL
WIDE
PHANT
S-BASS
DIR
TAPE2
VCR
PHONO
TUNER
LD
CD
S-BASS
RETURN
OEM
K-047
K-048
J3
J4
MUTE
FUNC2
FUNC1
STB2
STB1
CLK
DATA
CE
STOP
TUNER MUTE
STEREO
VOL UP
VOL DOWN
S-BASS
STB3
+5V
S.B
D.G
W.UP
AC
SUR SP
9V/10K
LED
REM
FL AC
FL AC
VF
1
2
3
4
5
6
7
8
9
0
35
1
VR801
Q801
Q802
Q810
Q808
Q809
Q804
Q803
IC801
Q811
Q812
Q813
Q818
Q814
Q815
Q816
Q805
Q817
Q806
Q807
Q819


To M. VOL assembly CN8 (➡ SCH−5)
To MOTHER assembly CN3 (➡ SCH−4)
To MOTHER assembly CN4 (➡ SCH−4)
FRONT. FL assembly
(AWZ4758 : VSX−452/KUXJ, KCXJ, VSX−462S)
(AWZ4777 : VSX−452/SDXJ)
(AWZ4769 : VSX−402)
J8
STB3
S-BASS
VOL DOWN
VOL UP
AKT1025
J3
V-CONT2 (D3)
V-CONT1 (D2)
SUR1 (DOLBY)
SUR2 (STUDIO)
MUTE
FUNC2 (E3)
FUNC1 (E2)
STB2
STB1
CLK
DATA
CE
STOP
TUNER MUTE
STEREO
AKT1019
J4
REM
REM IN
FL AC
FL AC
-VF
+5V B.UP
+5V S.BY
D.G
AC W.UP
AC RY
SURR/C SP
9K/10K
REAR+B
AKT1011
Q819 : S−BASS SW
XDA124ES-T
V(1:3)
A(1:10)
S(1:21)
C(1:3)
SURR(1:3)
IC801 : SYSTEM CONTROL
IC801
PDG095B
X801
ASS1022
V801
AAV1174
FL HOLDER X2
AHR2332
Q801:LED DRIVER
Q803, 804 : DRIVER
XP801
AXX1023
Q805−810, 818 : LED DRIVER
VSX−452, VSX−462S ONLY
DOLBY
STM
STUDIO
WIDE
PHANTOM
NORMAL
S-BASS
AEL1065-A-T
AEL1151-A-T
S801−S833: ASG1029−
3CH (VSX−452, VSX−462S)
S−BASS (VSX−402)
9k
10k
JP
Except SDXJ
POWER
FM/AM
MPX
MEMORY
TUNE −
TUNE +
S-S
DOLBY
STM
STUDIO
DIR
TAPE2
VCR1
LD
CD
TUNER
PHONO
S-BASS
RETURN
R821 47.0k
R822 47.0k
R823 47.0k
VSX−402 ONLY
VR801 ACS1093
J12
AKT1024
To MOTHER assembly CN12 (➡ SCH−4)
VSX−452, VSX−462S ONLY
Q811−817 : FL DRIVER
T'(1:7)
T(1:11)
AD(1:3)
VSX−402 ONLY
VSX−452, VSX−462S ONLY
C800
0.047/16
Q802 : RESET
D804 RD2.7ESB
R802 1k
L801 10

3.9 POWER. AMP ASSEMBLY

SCH-9


POWER. AMP assembly
(AWZ4761 : VSX-452, VSX-462S)
(AWZ4772 : VSX-402)
Lch POWER AMP
Rch POWER AMP
VSX-452, VSX-462S ONLY
Q5, 6, 520-526, 533 : CENTER POWER AMP
IC501, Q7, 8, 530, 534 : REAR POWER AMP
Q605, 606 : AC DETECTOR
DC DETECTOR
Over Load
VSX-402 ONLY
VSX-452 VSX-462S ONLY
D545-548 RD20ESB
11.9V
0.1V
1.0V
55.7V
0.5V
-0.5V
-1.0V
0V
2SC2240
ATH1004
RY501
RY502
ASR1035
2SA1048
HZS12AL-TP
XDC124ES-T
2SC2458-T
2SA992-T
2SC2705-T
2SA1145-T
2SC3298
2SA1306
2SC4668
HZS33-2L
CN7
CN11
J5
J10
KPD8
Front L power IN
Front GND
Front R power IN
Rear power IN
GND
Center power IN
Front Lout
Front L GND
Front R GND
Front Rout
+B
-B
GND
+B'(Rear)
-B(Rear)
+12V
R&C Speaker(from u-com)
AC
Center Out
Center GND
Rear GND
Rear out
To TONE. CON assembly J7 (➡ SCH-5)
To H. PHNE, SP. SW assembly CN5 (➡ SCH-10)
To MOTHER assembly J11 (➡ SCH-4)
To R. C. SP assembly CN10 (➡ SCH-10)
*1
A
B
C
D

IC501
UPC1270H

Pin No.	Voltage (V)	Pin No.	Voltage (V)
1	26.4	7	-1.0
2	26.4	8	0.5
3	20.2	9	-27.4
4	0.2	10	-27.4
5	0.2	11	-0.5
6	25.7	12	0.5

Any diode without part number indicates HSS104-02.

*1

	VSX-452 VSX-462S	VSX-402
CN7	KPD7	KPD5
J10	DYH04-	DYH03-
R511 R512	2.0k	1.8k
D521 D522 D523 D524	HZS33-2L	HZS58LL
Q1 Q2	2SC3182N	2SC3281
Q3 Q4	2SA1265N	2SA1302
Q5	2SC3182N	—
Q6	2SA1265N	—
Q7	2SC4668	2SC4668
Q8	2SA1803	2SA1803
RY501	ASR-112	ASR1035

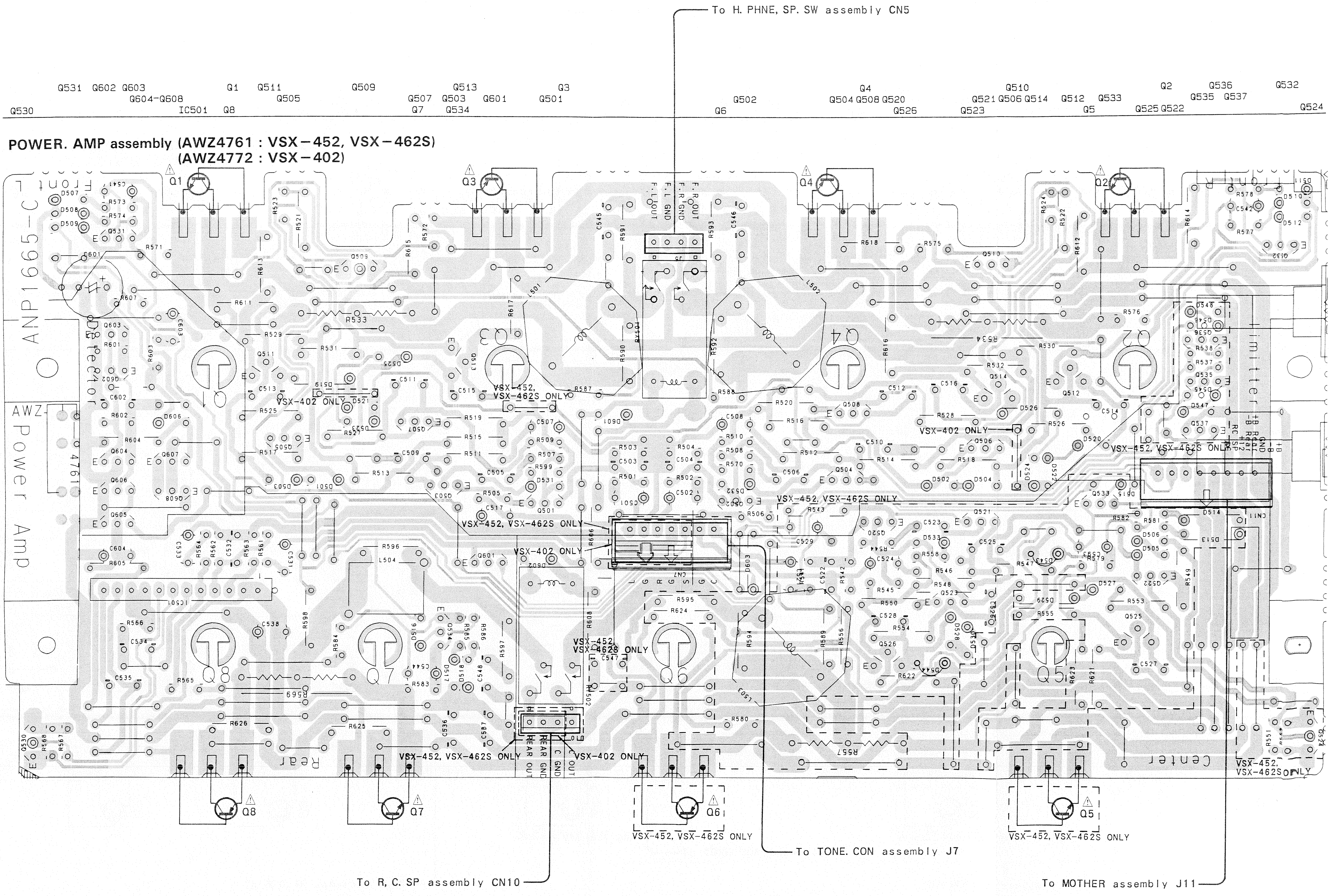
100W=28.28V/8Ω
80W=25.3V/8Ω

SIGNAL ROUTE:
⇨: AUDIO SIGNAL

This PCB connection diagram is viewd from the parts mounted side.

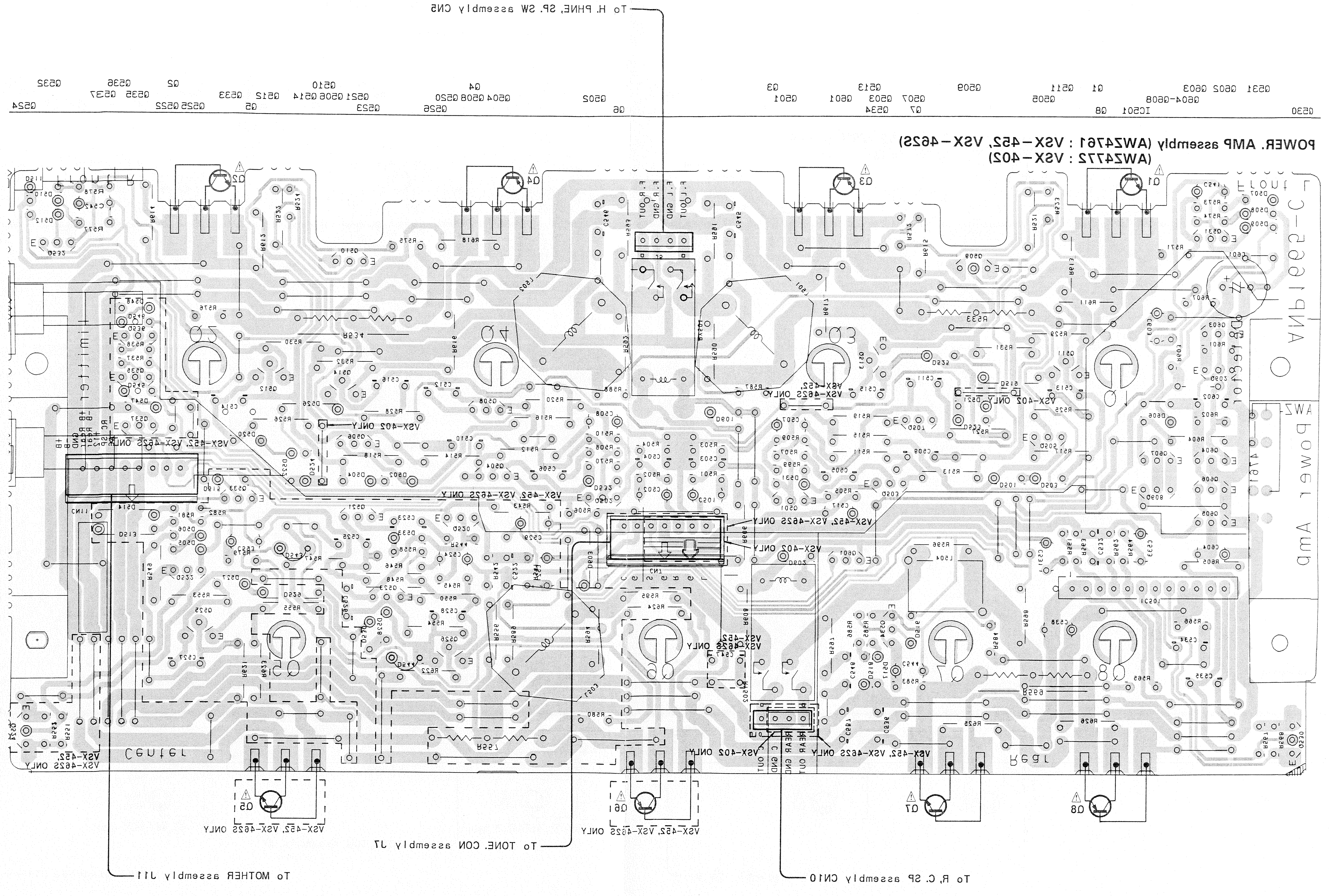
Q530 Q531 Q602 Q603 Q604–Q608 IC501 Q1 Q8 Q511 Q505 Q509 Q507 Q7 Q513 Q503 Q534 Q601 Q3 Q501 Q6 Q502 Q4 Q504 Q508 Q520 Q526 Q510 Q521 Q506 Q514 Q523 Q512 Q5 Q533 Q2 Q525 Q522 Q536 Q535 Q537 Q532 Q524

POWER. AMP assembly (AWZ4761 : VSX−452, VSX−462S)
(AWZ4772 : VSX−402)


To H. PHNE, SP. SW assembly CN5
Q1
Q3
Q4
Q2
Q8
Q7
Q6
Q5
ANP1665-C
Front
Detector
AWZ4761
Power Amp
Limitter
Rear
Center
F.L OUT
F.L GND
F.R GND
F.R OUT
REAR OUT
REAR GND
C GND
C OUT
VSX-402 ONLY
VSX-452, VSX-462S ONLY
VSX-452, VSX-462S ONLY
VSX-452, VSX-462S ONLY
To R, C. SP assembly CN10
To TONE. CON assembly J7
To MOTHER assembly J11
IC501
CN7
CN11
L501
L502
L503
L504
R533
R534
R557
R569
R626
R625
C601

This PCB connection diagram is viwed from the foil side.

**POWER. AMP assembly (AWZ4761 : VSX-452, VSX-462S)
(AWZ4772 : VSX-402)**



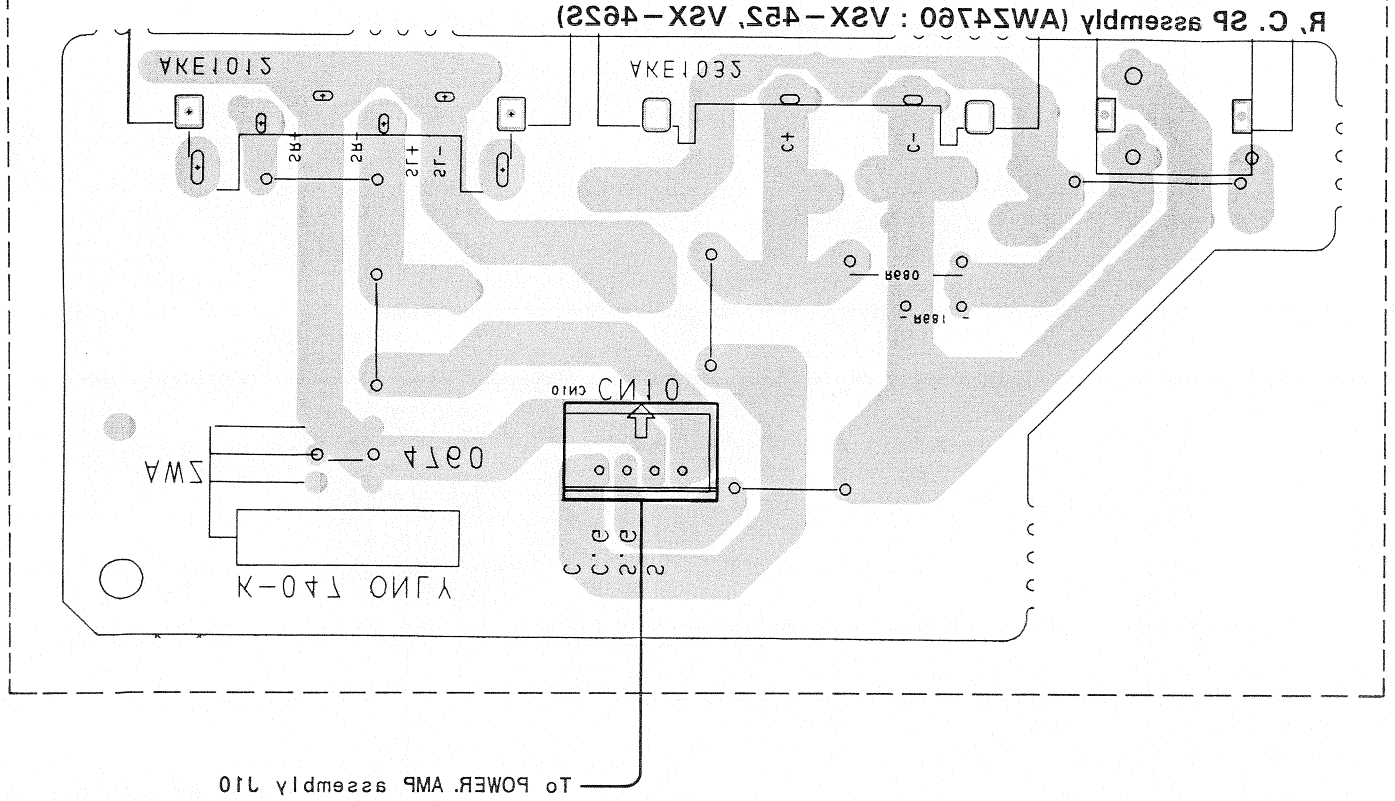
To H. PHNE, SP. SW assembly CN5
Q532 Q536 Q2 Q510 Q4 Q3 Q513 Q509 Q511 Q1 Q531 Q602 Q603
Q524 Q525 Q522 Q5 Q523 Q526 Q6 Q501 Q534 Q7 Q8 IC501 Q530
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
VSX-402 ONLY
VSX-452, VSX-462S ONLY
Center
Rear
Power Amp
To MOTHER assembly J11
To TONE. CON assembly J7
To R, C. SP assembly CN10

3.10 R, C. SP ASSEMBLY, H. PHNE, SP. SW ASSEMBLY AND TRANS ASSEMBLY

This PCB connection diagram is viwed from the foil side.

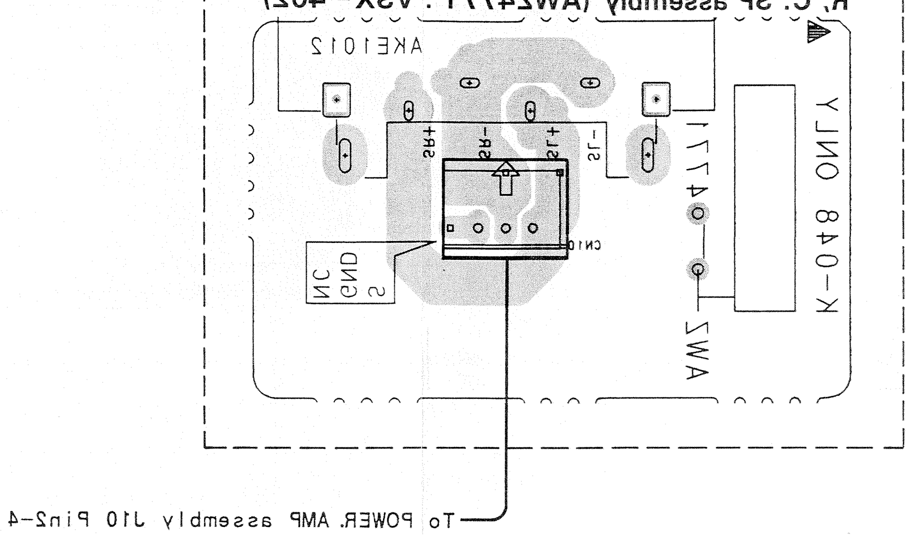
VSX-452, VSX-462S ONLY

R, C. SP assembly (AWZ4760 : VSX-452, VSX-462S)

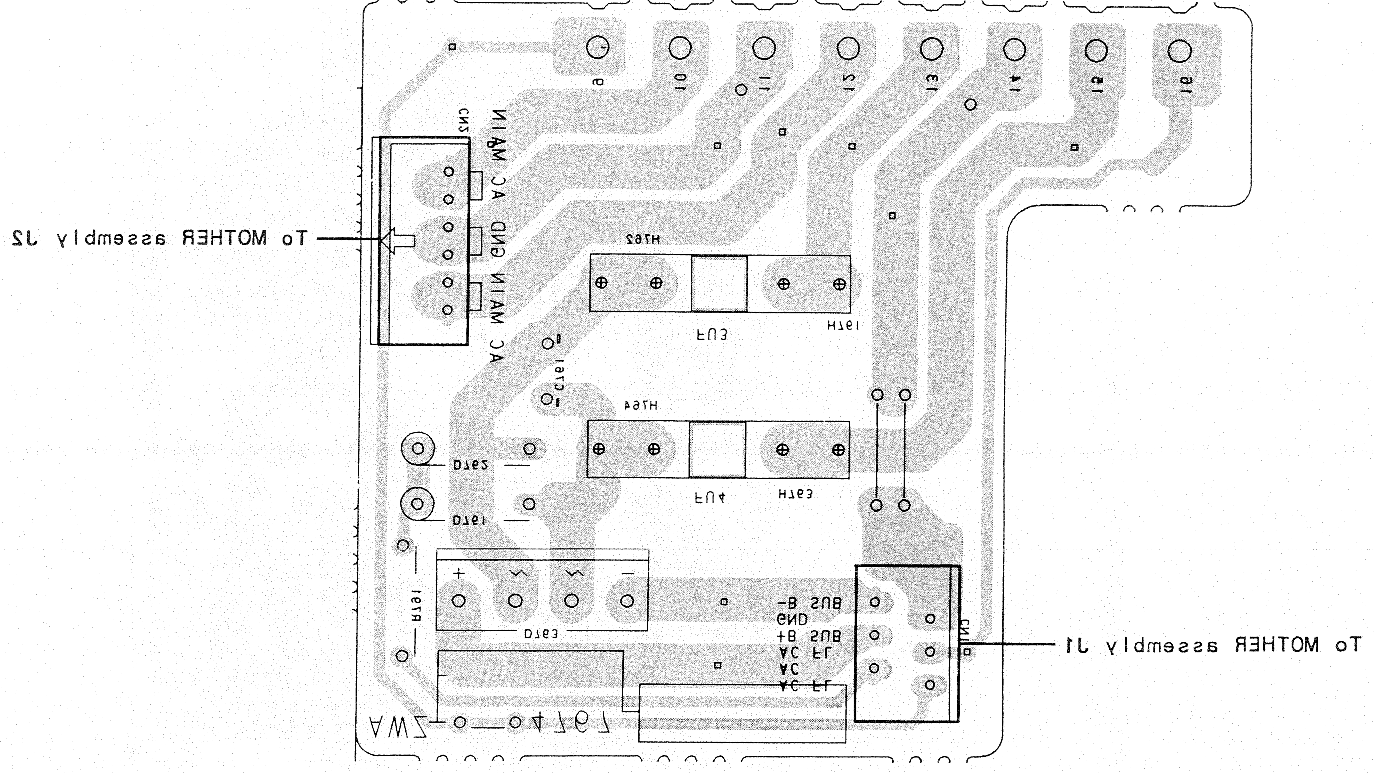

AKE1012
AKE1032
+R
-R
+L
-L
C+
C-
R890
R891
CN10
AWZ
0924
K-047 ONLY
To POWER. AMP assembly J10

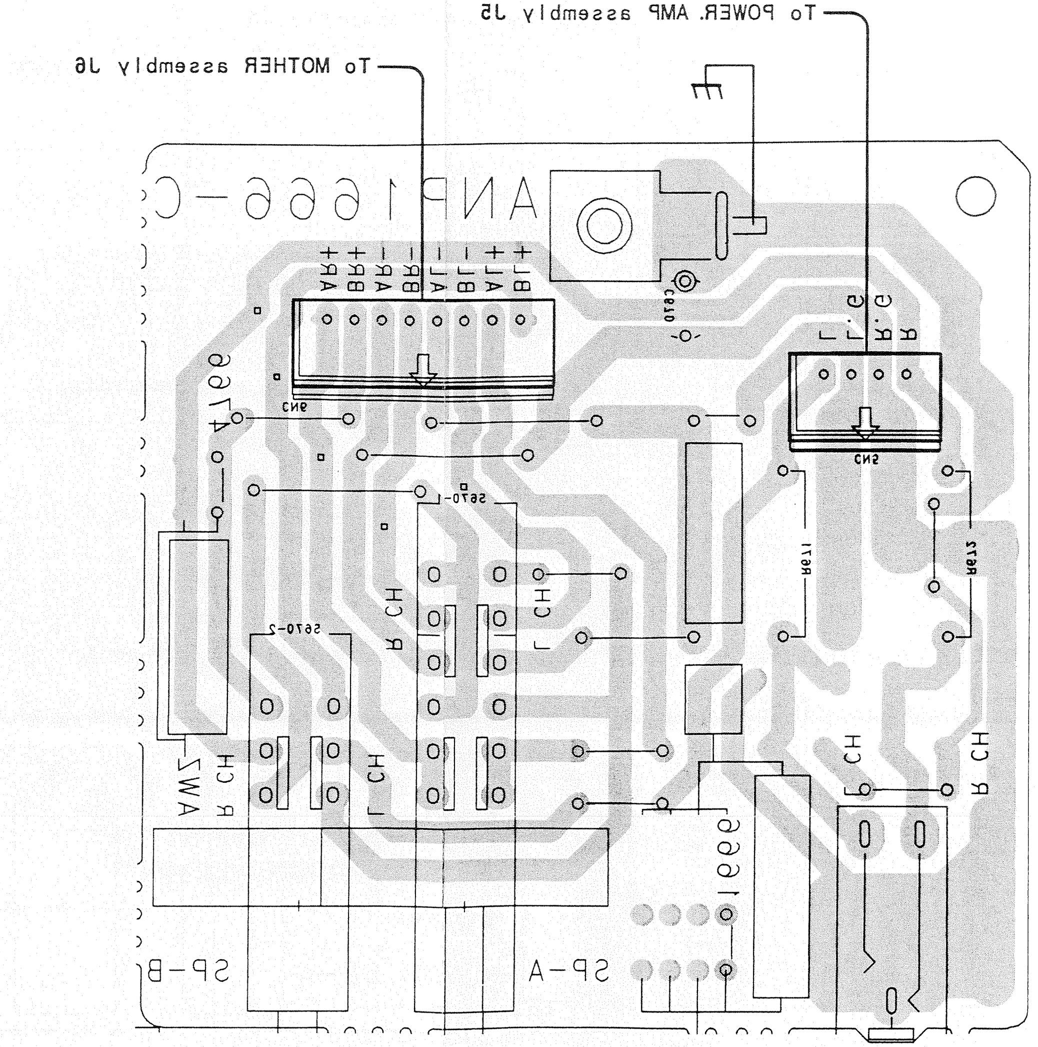
VSX-402 ONLY

R, C. SP assembly (AWZ4771 : VSX-402)


AKE1012
+R
-R
+L
-L
CN10
NC
GND
S
AWZ
4771
K-048 ONLY
To POWER. AMP assembly J10 Pin2-4

TRANS assembly (AWZ4767)


9
10
11
12
13
14
15
16
CN2
AC MAIN
GND
AC MAIN
To MOTHER assembly J2
H762
H761
FU3
H764
H763
FU4
D762
D761
D763
-B SUB
GND
+B SUB
AC FL
AC
AC FL
CN1
To MOTHER assembly J1
AWZ
4767

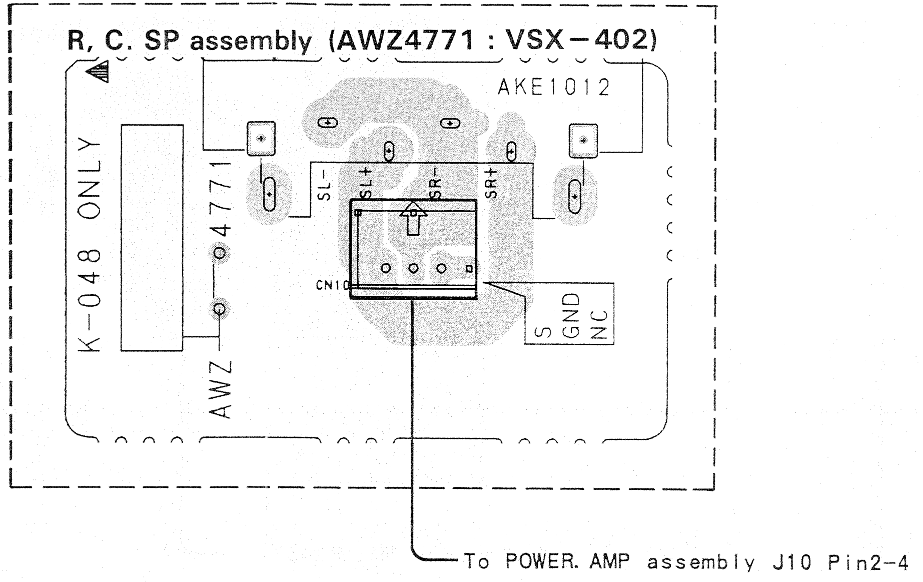

To POWER. AMP assembly J5
To MOTHER assembly J6
ANP1666-C
+RR
+RB
-RA
-RB
-LA
-LB
+LA
+LB
CN6
CN5
R CH
L CH
AWZ
4766
SP-B
SP-A

H. PHNE, SP. SW assembly (AWZ4766)

3.10 R, C. SP ASSEMBLY, H. PHNE, SP. SW ASSEMBLY AND TRANS ASSEMBLY

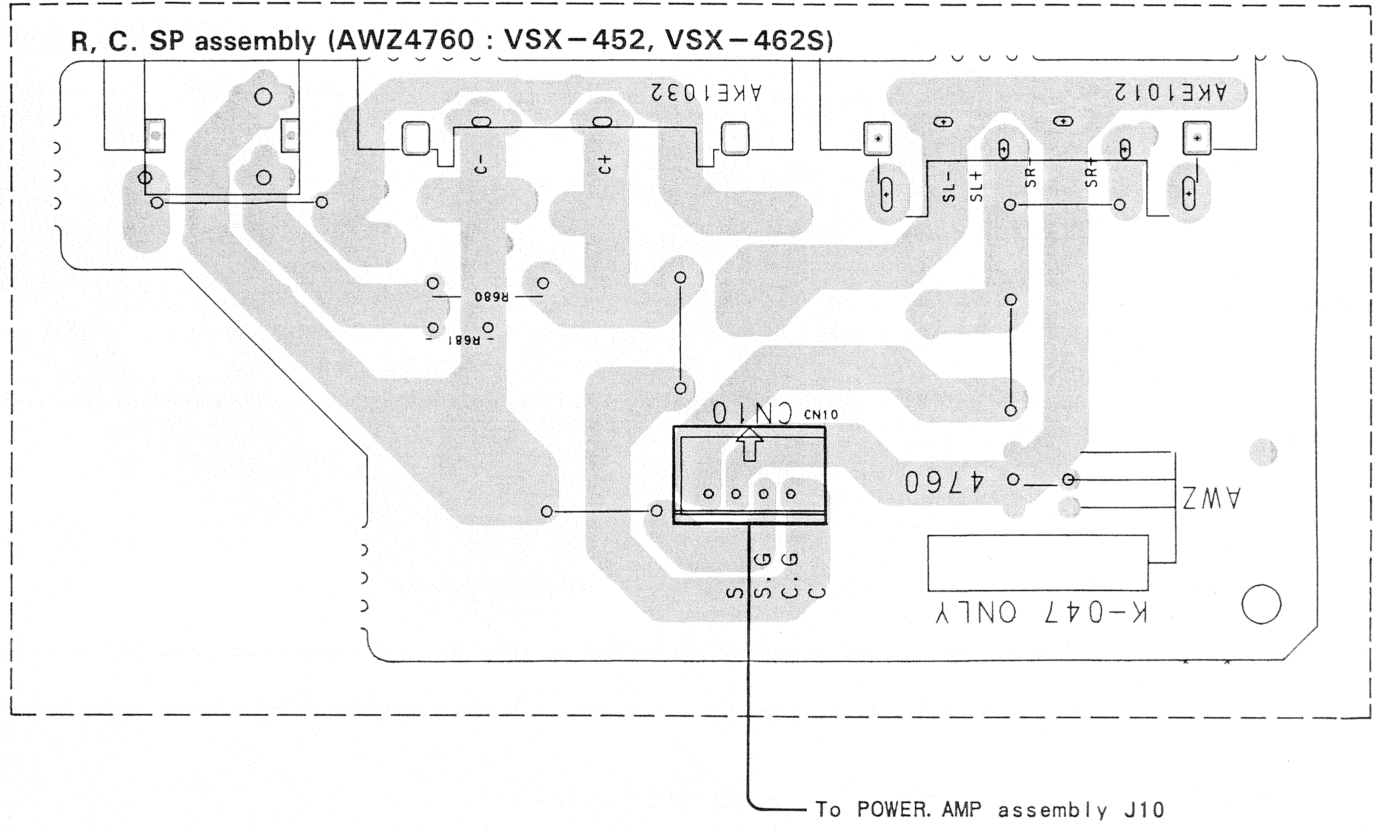
This PCB connection diagram is viewd from the parts mounted side.

VSX-402 ONLY

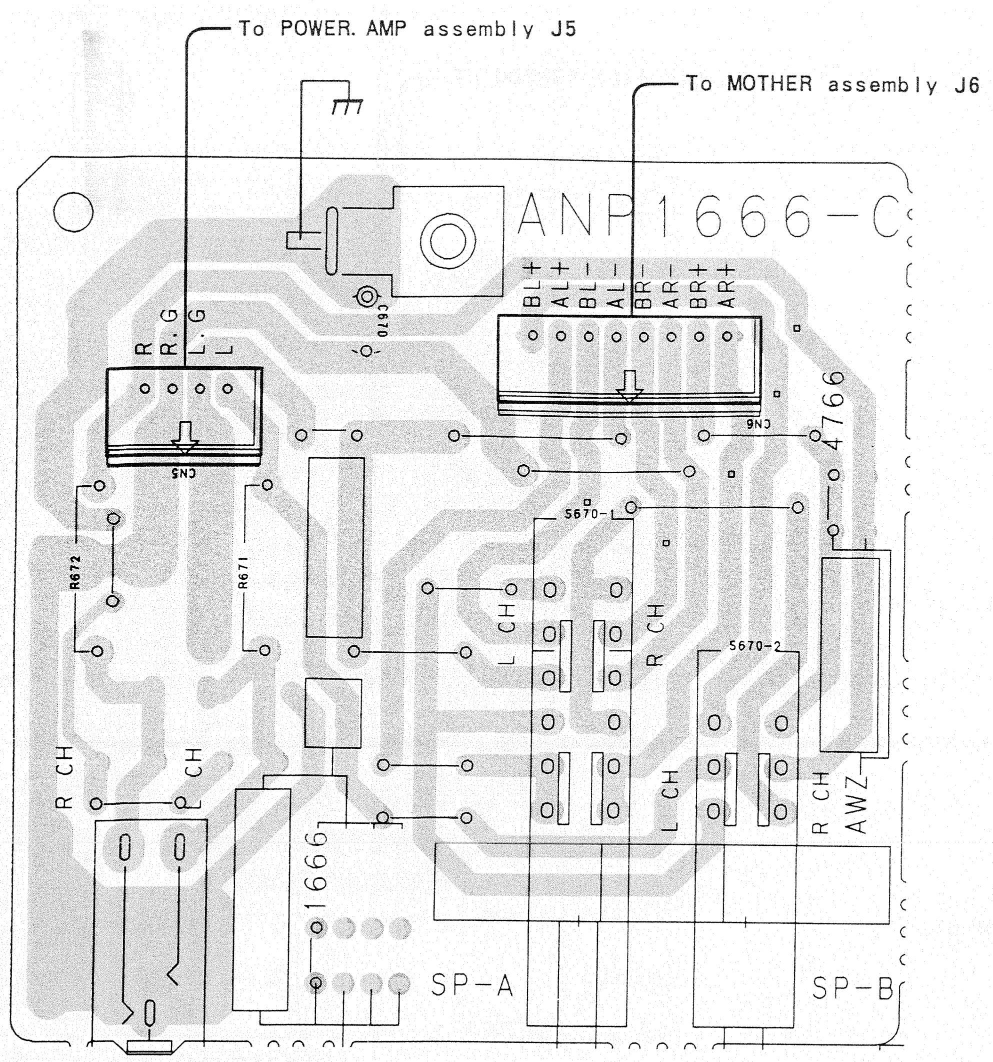

R, C. SP assembly (AWZ4771 : VSX-402)

AKE1012
K-048 ONLY
AWZ-4771
SL-
SL+
SR-
SR+
CN10
S
GND
NC
To POWER. AMP assembly J10 Pin2-4

VSX-452, VSX-462S ONLY

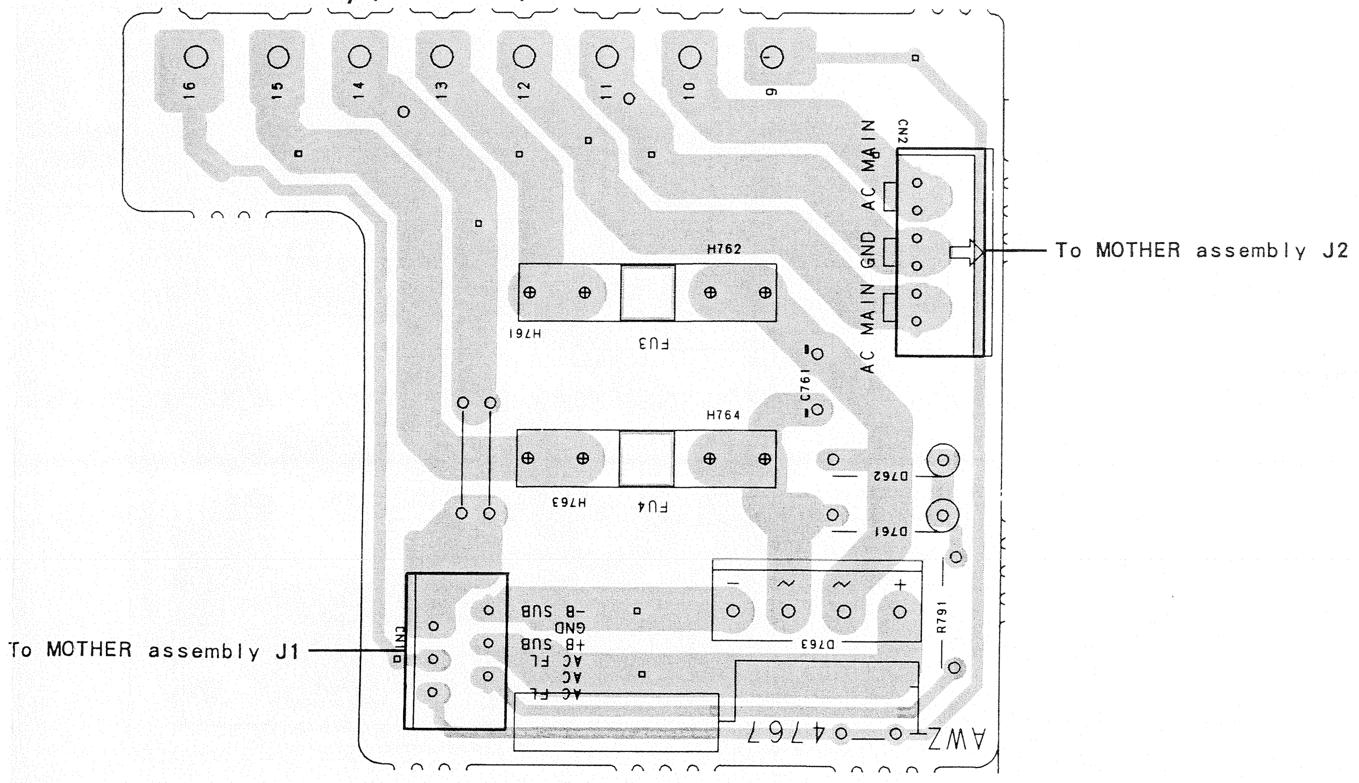

R, C. SP assembly (AWZ4760 : VSX-452, VSX-462S)

AKE1032
AKE1012
C-
C+
SL-
SL+
SR-
SR+
R680
R681
CN10
AWZ 4760
K-047 ONLY
S
S.G
C.G
C
To POWER. AMP assembly J10

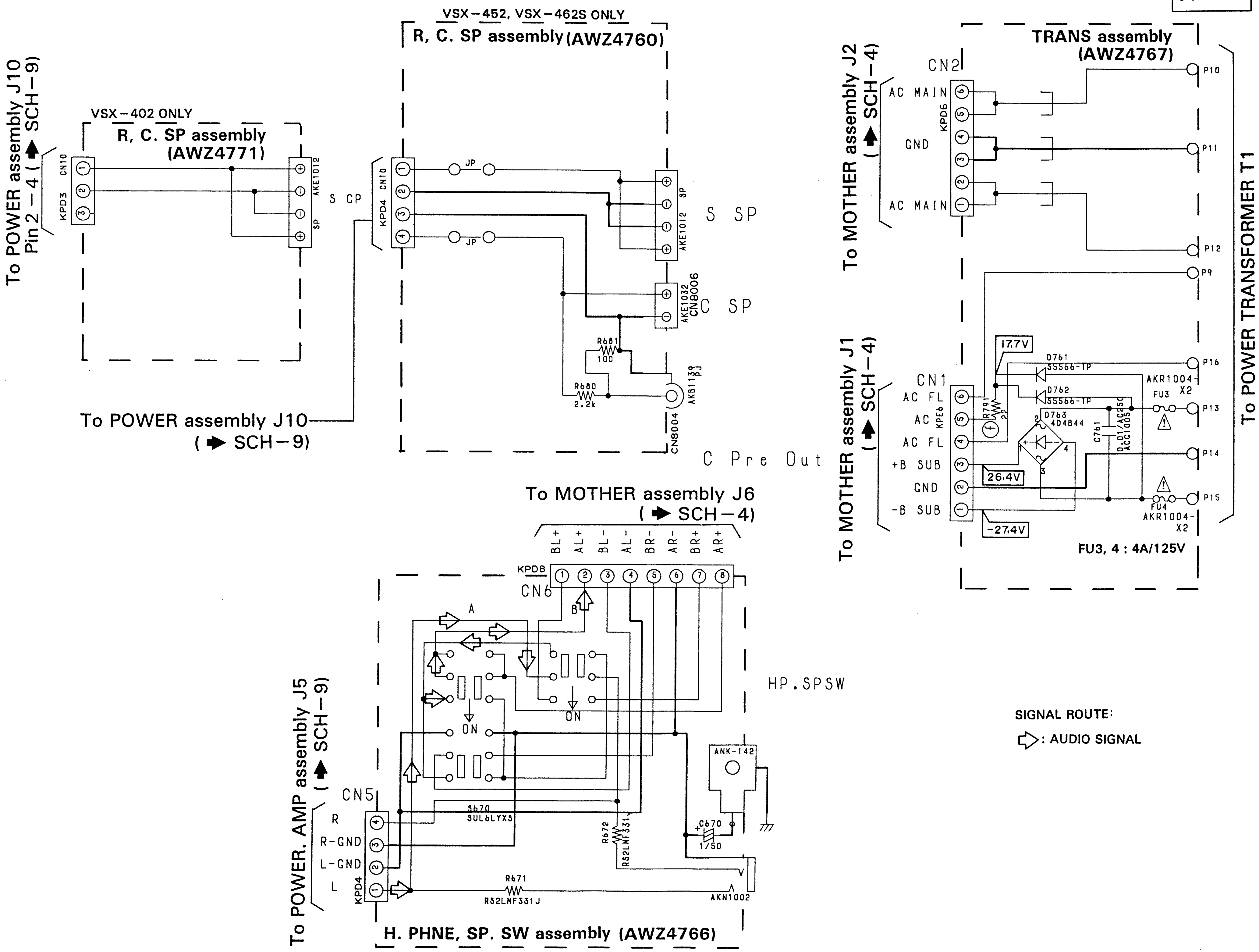

H. PHNE, SP. SW assembly (AWZ4766)

To POWER. AMP assembly J5
To MOTHER assembly J6
ANP1666-C
BL+
AL+
BL-
AL-
BR-
AR-
BR+
AR+
R
R.G
L.G
L
CN5
CN6
C610
R672
R671
S670-1
S670-2
L CH
R CH
AWZ-4766
1666
SP-A
SP-B

TRANS assembly (AWZ4767)


16
15
14
13
12
11
10
9
CN2
AC MAIN
GND
AC MAIN
AC
To MOTHER assembly J2
H762
H761
FU3
C761
H764
H763
FU4
D762
D761
D763
R791
To MOTHER assembly J1
CN1
-B SUB
+B SUB
GND
AC FL
AC
AC FL
AWZ-4767

SCH-10

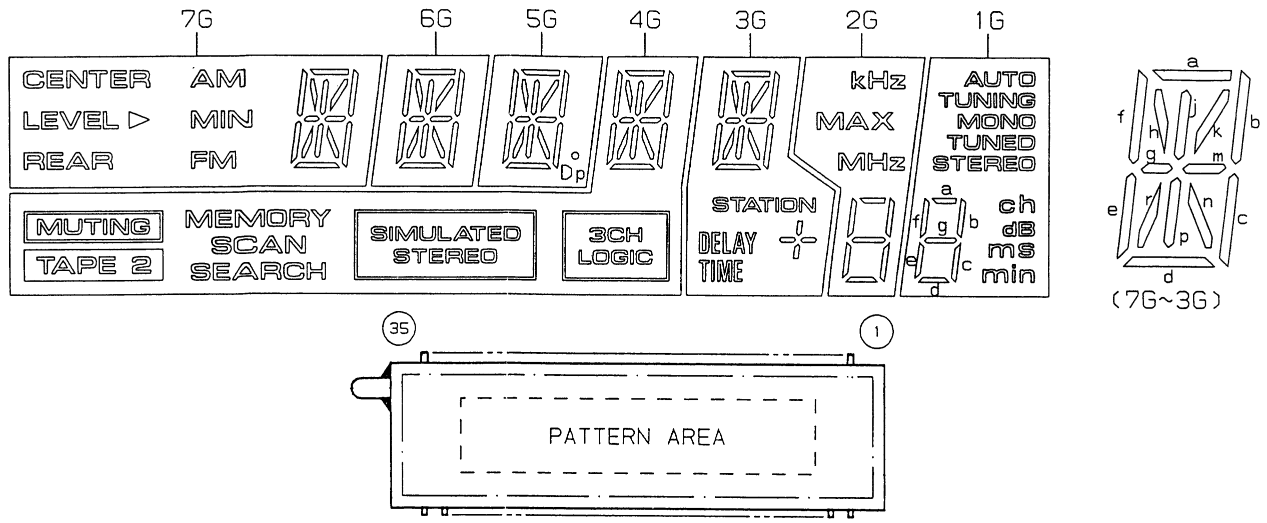

To POWER assembly J10 Pin 2 – 4 (➡ SCH – 9)
VSX – 402 ONLY
R, C. SP assembly (AWZ4771)
KPD3
CN10
AKE1012
SP
S CP
VSX – 452, VSX – 462S ONLY
R, C. SP assembly (AWZ4760)
KPD4 CN10
JP
S SP
AKE1032 CN8006
C SP
R681 100
R680 2.2k
AKB1139 PJ
CN8004
C Pre Out
To POWER assembly J10 (➡ SCH – 9)
To MOTHER assembly J6 (➡ SCH – 4)
BL+ AL+ BL– AL– BR– AR– BR+ AR+
KPD8
CN6
A
B
ON
HP.SPSW
ANK-142
To POWER. AMP assembly J5 (➡ SCH – 9)
CN5
R
R-GND
L-GND
L
KPD4
S670 SUL6LYX5
R672 R52LMF331J
C670 1/50
R671 R52LMF331J
AKN1002
H. PHNE, SP. SW assembly (AWZ4766)
TRANS assembly (AWZ4767)
To MOTHER assembly J2 (➡ SCH – 4)
CN2
KPD6
AC MAIN
GND
AC MAIN
P10
P11
P12
P9
To MOTHER assembly J1 (➡ SCH – 4)
CN1
KPE6
AC FL
AC
AC FL
+B SUB
GND
–B SUB
17.7V
D761 SS566-TP
D762 SS566-TP
D763 4D4B44
R791 22
C761 0.01/AC250 ACG1005
AKR1004-X2
FU3
FU4
26.4V
–27.4V
P16
P13
P14
P15
FU3, 4 : 4A/125V
To POWER TRANSFORMER T1

SIGNAL ROUTE:

⇨ : AUDIO SIGNAL

■ AAV1174 (V801 : FRONT. FL ASSEMBLY)

- **FL Tube**
- Grid Assignment



- Pin Connection

PIN NO.	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
CONNECTION	F2	F2	NP	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2	P1	NC	7G	6G	5G	4G	3G	2G	1G	NP	F1	F1

NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) NC ------ No connection
4) 1G~7G --- Grid
5) DL ------ Datum Line

- Anode Connection

	7G	6G	5G	4G	3G	2G	1G
P1	a	a	a	a	a	a	a
P2	j	j	j	j	j	b	b
P3	h	h	h	h	h	f	f
P4	k	k	k	k	k	g	g
P5	b	b	b	b	b	c	c
P6	f	f	f	f	f	e	e
P7	m	m	m	m	m	d	d
P8	g	g	g	g	g	kHz	AUTO TUNING
P9	c	c	c	c	c	MAX	MONO
P10	e	e	e	e	e	MHz	TUNED
P11	r	r	r	r	r	-	STEREO
P12	n	n	n	n	n	-	ch
P13	p	p	p	p	p	-	dB
P14	d	d	d	d	d	-	ms
P15	CENTER	-	Dp	3CH LOGIC	STATION	-	min
P16	LEVEL ▷	-	-	SIMULATED STEREO	DELAY TIME	-	-
P17	REAR	-	-	MEMORY	--	-	-
P18	AM	-	-	SCAN	0 0	-	-
P19	MIN	-	-	SEARCH	-	-	-
P20	FM	-	-	MUTING	-	-	-
P21	-	-	_	TAPE 2	-	-	-

4. PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

560Ω → 56 × 10^1 → 561 ························ RD1/8PM 5 6 1 J
47kΩ → 47 × 10^3 → 473 ························ RD1/4PS 4 7 3 J
0.5Ω → 0R5 ·· RN2H 0 R 5 K
1Ω → 010 ·· RS1P 0 1 0 K

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62kΩ → 562 × 10^1 → 5621 ················· RM1/4PC 5 6 2 1 F

LIST OF ASSEMBLIES

Mark	No. Description	Parts No.
NSP	MAIN ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWK1664
NSP	MAIN ASSEMBLY (For VSX−452/SDXJ)	AWK1698
NSP	MAIN ASSEMBLY (For VSX−402)	AWK1667
	— MOTHER ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWZ4757
◉	MOTHER ASSEMBLY (For VSX−452/SDXJ)	AWZ4776
	MOTHER ASSEMBLY (For VSX−402)	AWZ4768
◉	— FRONT. FL ASSEMBLY (For VSX−452/KUXJ, KCXJ and VSX−462S)	AWZ4758
◉	FRONT. FL ASSEMBLY (For VSX−452/SDXJ)	AWZ4777
◉	FRONT. FL ASSEMBLY (For VSX−402)	AWZ4769
	— REG. ASSEMBLY	AWZ5039
NSP	AMP/FUNC ASSEMBLY (For VSX−452 and VSX−462S)	AWK1665
NSP	AMP/FUNC ASSEMBLY (For VSX−402)	AWK1668
	— A. FUNC ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4759
	A. FUNC ASSEMBLY (For VSX−402)	AWZ4770
	— POWER. AMP ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4761
	POWER. AMP ASSEMBLY (For VSX−402)	AWZ4772
	— VIDEO. AMP ASSEMBLY	AWZ4763
	— M. VOL ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4764
	M. VOL ASSEMBLY (For VSX−402)	AWZ4773
	— TONE. CON ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4765
◉	TONE. CON ASSEMBLY (For VSX−402)	AWZ4774
	DOLBY. SURR ASSEMBLY (VSX−402 only)	AWZ4775

Mark	No. Description	Parts No.
NSP	SP/TUNER ASSEMBLY (For VSX−452 and VSX−462S)	AWK1666
NSP	SP/TUNER ASSEMBLY (For VSX−402)	AWK1669
◉	— R, C. SP ASSEMBLY (For VSX−452 and VSX−462S)	AWZ4760
◉	R, C. SP ASSEMBLY (For VSX−402)	AWZ4771
◉	— TUNER ASSEMBLY	AWZ4762
◉	— H. PHNE, SP. SW ASSEMBLY	AWZ4766
◉	— TRANS ASSEMBLY	AWZ4767
	DOL. PRO. MOD. ASSEMBLY (For VSX−452 and VSX−462S)	AXQ1009

MOTHER ASSEMBLY

SEMICONDUCTORS

Mark	No. Description	Parts No.
	IC705	MC14066BCP
	IC704	NJM4558DXP
	Q709	2SA1048
	Q705	2SC2458
	Q703, Q706, Q708	XDA143ES
	Q710	XDC124ES
	Q704, Q707, Q751	XDC143ES
	D712	D5SB20F
	D701−D704, D706, D714, D754, D757	HSS104−02
	D705, D707 (VSX−452, VSX−462S only)	HSS104−02
	D715 (VSX−402 only)	HSS104−02
	D753, D756	HZS6A2L
	D708, D709	HZS6B2L
	D758 (VSX−402 only)	HZS6B2L
	D711	RD22ESB
	D710	RD4.3ESB
	D752, D755	S5566

SWITCH & RELAY

Mark	No. Description	Parts No.
	RY751	ASR1027
	S701 (VSX−452/SDXJ only)	ASH1015

TRANSFORMERS

Mark	No.	Description	Parts No.
	T751	(Except VSX−452/SDXJ)	ATT1223
	T751	(For VSX−452/SDXJ)	ATT1224

CAPACITORS

Mark	No.	Description	Parts No.
	C754	(0.01/400)	ACG1002
	C755	(0.01/400) (Except VSX−452/SDXJ)	ACG1002
	C755	(0.02) (For VSX−452/SDXJ)	ACG1030
	C717	(0.01/150)	ACG1005
	C713, C714	(8200/63) (Except VSX−402)	ACH1044
	C713, C714	(8200/71) (For VSX−402)	ACH1204
	C715, C716	(3300/42)	ACH1123
	C704		ACH1135
	C771	(VSX−452, VSX−462S only)	CEAS010M50
	C753		CEAS470M10
	C705, C706		CEAS470M16
	C756	(VSX−402 only)	CEAS470M16
	C752		CEAS471M25
	C701−C703		CEAS4R7M50
	C772	(VSX−452, VSX−462S only)	CKCYB821K50
	C751		CKCYX104M25
	C781	(VSX−452, VSX−462S only)	CKCYF103Z50

RESISTORS

Mark	No.	Description	Parts No.
	R756	(2.2M, 1/2W) (Except VSX−452/SDXJ)	ACN−208
	R752		RD1/2PM470J
	R728		RD1/4PM331J
	R732		RD1/4PMF4R7J
	R700		RFA1/4PS4R7J
	R729		RS1LMF101J
	R758	(VSX−402 only)	RS1LMF101J
	R735		RS1LMF150J
	R759	(VSX−452, VSX−462S only)	RS1LMF331J
	R751		RS2LMF221J
	R733, R734		RS2LMF330J
	R731	(Except VSX−402)	RS2LMF332J
	R730	(Except VSX−402)	RS2LMF392J
	R730, R731	(For VSX−402)	RS2LMF472J
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
		SPEAKER TERMINAL 8−P	AKE−111
	CN8005	MINI JACK 2P	AKN1006
		MINI JACK (VSX−452, VSX−462S only)	AKN1020
	CN8008	1P AC INLET WITH OUTLET (Except VSX−452/SDXJ)	AKP1124
	CN8008	1P AC INLET WITH OUTLET (For VSX−452/SDXJ)	AKP1123
	CN4	JUMPER CONNECTOR (13P)	KPE13
	CN3	JUMPER CONNECTOR (15P)	KPE15
	CN12	JUMPER CONNECTOR (3P) (VSX−402 only)	KPE3

FRONT. FL ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC801		PDG095B
	Q803, Q804		2SC2458
	Q801, Q819		XDA124ES
	Q802, Q805−Q807, Q811−Q818		XDC124ES
	Q808−Q810	(VSX−452, VSX−462S only)	XDC124ES
	D808−D810	(VSX−452, VSX−462S only)	AEL1065
	D805−D807, D818		AEL1065
	D802		AEL1151
	D801, D803, D811−D817		HSS104−02
	D804		RD2.7ESB

SWITCHES

Mark	No.	Description	Parts No.
	S801−S822, S826−S831, S833		ASG1029
	S832	(VSX−452, VSX−462S only)	ASG1029

COIL

Mark	No.	Description	Parts No.
	L801		LAU100K

CAPACITORS

Mark	No.	Description	Parts No.
	C801		CEAS0R1M50
	C802−C804, C806		CEAS100M50
	C805		CEAS470M35
	C800		CKPUYF473Z16

RESISTORS

Mark	No.	Description	Parts No.
	VR801	(VSX−402 only)	ACS1093
	R809, R815		RD1/2PM222J
	R812	(VSX−452, VSX−462S only)	RD1/2PM222J
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	X801	(4.19MHz)	ASS1022
	V801	FL TUBE	AAV1174
		REMOTE RECEIVER UNIT	AXX1023

A. FUNC ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC202		MC14052BCP
	IC201, IC204, IC205		NJM4558DXP
	IC203		TC9163N

Mark	No.	Description	Parts No.
	Q201, Q202		2SC2878
	Q203		XDA143ES
	D203−D206		HSS104−02
	D201, D202		HZS6A2L

CAPACITORS

Mark	No.	Description	Parts No.
	C229, C230		CCCSL220J50
	C205, C206		CCCSL221J50
	C202		CEAS010M50
	C203, C204, C215, C216		CEAS100M50
	C207, C208		CEAS101M16
	C213, C214, C223, C224		CEAS2R2M50
	C219, C220, C225−C228, C231, C232		CEAS4R7M50
	C217, C218		CKCYB102K50
	C233−C235		CKCYB471K50
	C201, C221, C222		CKCYF103Z50
	C211, C212		CQMA242J50
	C209, C210		CQMA822J50

RESISTORS

Mark	No.	Description	Parts No.
	R237, R238		RD1/4PM122J
	R237, R238 (For VSX−402)		RD1/2PM122J
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN8004	PIN JACK (6P)	AKB1209
	CN8005	PIN JACK (8P)	AKB1210

R, C. SP ASSEMBLY

RESISTORS

Mark	No.	Description	Parts No.
		All Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN8004	PIN JACK (1P)	AKB1139
	(VSX−452, VSX−462S only)	SPEAKER TERMINAL 4−P	AKE1012
	CN8006	SPEAKER TERMINAL 2−P (VSX−452, VSX−462S only)	AKE1032

POWER. AMP ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC501		UPC1270H
	Q604		2SA1048
	Q505, Q506		2SA1145
	Q522 (VSX−452, VSX−462S only)		2SA1145
	Q513, Q514		2SA1306
	Q526 (VSX−452, VSX−462S only)		2SA1306
	Q501−Q504		2SA992
	Q520, Q521 (VSX−452, VSX−462S only)		2SA992
	Q531, Q532		2SC2240
	Q533 (VSX−452, VSX−462S only)		2SC2240
	Q509, Q510, Q530, Q534, Q602, Q603, Q607, Q608		2SC2458
	Q524 (VSX−452, VSX−462S only)		2SC2458
	Q507, Q508		2SC2705
	Q523 (VSX−452, VSX−462S only)		2SC2705
	Q511, Q512		2SC3298
	Q525 (VSX−452, VSX−462S only)		2SC3298
	Q535, Q536 (VSX−452, VSX−462S only)		2SC3327
	Q537 (VSX−452, VSX−462S only)		XDA143ES
	Q601, Q605, Q606		XDC124ES
	D501−D504, D507−D512, D516−D520, D525, D526, D531, D532, D601−D603		HSS104−02
	D505, D506, D513−D515, D527, D528, D533, D543, D544 (VSX−452, VSX−462S only)		HSS104−02
	D606		HZS12AL
	D521−D524 (Except VSX−402)		HZS33−2L
	D529, D530 (VSX−452, VSX−462S only)		HZS33−2L
	D521−D524 (For VSX−402)		HZS5BLL
	D545−D548 (VSX−452, VSX−462S only)		RD20ESB

RELAIES

Mark	No.	Description	Parts No.
	RY501 (Except VSX−402)		ASR−112
	RY501 (For VSX−402)		ASR1035
	RY502		ASR1035

COILS

Mark	No.	Description	Parts No.
	L501, L502		ATH1004
	L503 (VSX−452, VSX−462S only)		ATH1004
	L504		ATH1011

CAPACITORS

Mark	No.	Description	Parts No.
	C511, C512		CCCSL050C500
	C526 (VSX−452, VSX−462S only)		CCCSL050C500
	C513−C516		CCCSL101K500
	C527, C528 (VSX−452, VSX−462S only)		CCCSL101K500
	C509, C510		CCCSL220K500
	C525 (VSX−452, VSX−462S only)		CCCSL220K500
	C534		CCCSL270J50
	C517, C603		CEAS101M16
	C529 (VSX−452, VSX−462S only)		CEAS101M16
	C507, C508		CEAS220M16
	C524 (VSX−452, VSX−462S only)		CEAS220M16
	C544		CEAS2R2M50
	C601		CEAS471M16
	C501, C502		CEAS4R7M50
	C521 (VSX−452, VSX−462S only)		CEAS4R7M50

Mark	No.	Description	Parts No.
	C541, C542		CEASR47M50
	C593	(VSX–452, VSX–462S only)	CEASR47M50
	C538		CEHAQ100M2A
	C533		CEHAQ101M10
	C531		CEHAQ2R2M50
	C604		CEHAQ470M50
	C545, C546, C548		CFTYA473J50
	C547	(VSX–452, VSX–462S only)	CFTYA473J50
	C503, C504, C532		CKCYB102K50
	C522	(VSX–452, VSX–462S only)	CKCYB102K50
	C536, C537		CKCYF103Z50
	C602		CKCYX103M25
	C505, C506		CKDYB681K50
	C523	(VSX–452, VSX–462S only)	CKDYB681K50
	C535		CQMA333J50

RESISTORS

Mark	No.	Description	Parts No.
	R569	(0.22, 2W)	ACN–131
	R533, R534	(0.33, 5W)	ACN1087
	R557	(0.33, 5W) (VSX–452, VSX–462S only)	ACN1087
	R515, R516		RD1/4PM104J
	R548	(VSX–452, VSX–462S only)	RD1/4PM104J
	R511, R512	(Except VSX–402)	RD1/4PM202J
	R546	(VSX–452, VSX–462S only)	RD1/4PM202J
	R511, R512	(For VSX–402)	RD1/4PM182J
	R513, R514		RD1/4PM473J
	R547	(VSX–452, VSX–462S only)	RD1/4PM473J
	R590–R593, R596, R597		RD1/4PMF100J
	R594, R595	(VSX–452, VSX–462S only)	RD1/4PMF100J
	R529–R532, R606, R608		RD1/4PMF101J
	R555, R556	(VSX–452, VSX–462S only)	RD1/4PMF101J
	R614–R616		RD1/4PMF4R7J
	R623, R624	(VSX–452, VSX–462S only)	RD1/4PMF4R7J
	R517, R518		RD1/4PMF680J
	R549	(VSX–452, VSX–462S only)	RD1/4PMF680J
	R519, R520, R525–R528		RFA1/4PS101J
	R550, R553, R554	(VSX–452, VSX–462S only)	RFA1/4PS101J
	R611, R612, R617, R618, R625, R626		RFA1/4PS4R7J
	R621, R622	(VSX–452, VSX–462S only)	RFA1/4PS4R7J
	R613	(Except VSX–402)	RFA1/4PS4R7J
	R613	(For VSX–402)	RD1/4PMF4R7J
		Other Resistors	RD1/8PM☐☐☐J

TUNER ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC101		LA1851N
	IC102		LM7001
	Q110		2SC1740S
	Q108		2SC1740SLN
	Q101		2SC2668
	Q109		2SK246
	Q102		XDA124ES
	Q104		XDA143ES
	Q103		XDC124ES

COILS

Mark	No.	Description	Parts No.
	L101		ATE1012
	F101, F102		ATF–126
	F103		ATF–208
	L106		LAU2R2K

CAPACITORS

Mark	No.	Description	Parts No.
	C107, C146, C147		CCPUCH150J50
	C122		CCPUSL470J50
	C123, C130, C131		CEAS010M50
	C109, C126		CEAS100M50
	C150		CEAS330M16
	C117		CEAS3R3M50
	C119, C142		CEAS470M16
	C125, C136, C137		CEAS4R7M50
	C132		CEASR33M50
	C149		CFTYA103J50
	C148		CFTYA224J50
	C134, C135		CKCYB103K50
	C100		CKDYX103M25
	C115		CKDYX473M25
	C116		CKPUYB102K50
	C145		CKPUYB221K50
	C106, C108, C151		CKPUYF223Z25
	C105		CKPUYF473Z16
	C120		CKPUYX562M16
	C101, C103, C110, C112, C113, C118, C121, C128, C129, C152		CKPUYY103N16
	C111		CCDSL101J50

RESISTORS

Mark	No.	Description	Parts No.
		All Resistors	RD1/8PM☐☐☐J

OTHERS

Mark	No.	Description	Parts No.
	X102	(7.200MHz)	ASS1005
	X101	(456KHz)	ASS1066
		AM RF TUNING BLOCK	AXX1025
		ANTENNA TERMINAL 4–P	AKA1009
		2 SERIAL F. E. MODULE ASSEMBLY	AXQ1002

NOTE:
The 2 serial F. E. module assembly (AXQ1002) will be replaced upon periodical servicing. Therefore, individual parts in the assembly are not specified for service.

VIDEO. AMP ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC401		LA7952
	Q401, Q403		2SC2458
	Q402		2SC2878
	D401		HSS104–02

CAPACITORS

Mark	No.	Description	Parts No.
	C405, C408, C411		CEAS101M16
	C410		CEAS470M16
	C403, C404		CEAS471M6
	C401, C402		CEAS4R7M50
	C406, C409, C412		CKCYF473Z50

RESISTORS

Mark	No.	Description	Parts No.
	R412, R413		RD1/2PM271J
	R407, R411		RD1/4PM151J
		Other Resistors	RD1/8PM□□□J

OTHER

Mark	No.	Description	Parts No.
		PIN JACK 2P	AKB1118

M. VOL ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC303, IC304, IC382		NJM4558DXP
	IC381		TA8409S
	IC305		TC9154AP
	Q381, Q382		2SC2458
	D351, D352		HZS6A2L

COILS

Mark	No.	Description	Parts No.
	L381, L382		LAU220K

CAPACITORS

Mark	No.	Description	Parts No.
	C353, C357 (VSX–452, VSX–462S only)		CCCSL680J50
	C354, C358		CCCSL680J50
	C365		CCPUSL470J50
	C385, C386		CEAS2R2M50
	C361, C362, C381		CEAS470M16
	C351, C355, C359, C363 (VSX–452, VSX–462S only)		CEAS4R7M50
	C352, C356, C360, C364		CEAS4R7M50
	C387, C388		CFTYA153J50
	C389, C390		CFTYA823J50
	C382, C383		CKDYF473Z50

RESISTORS

Mark	No.	Description	Parts No.
	VR381	(100k–A5*4) (Except VSX–402)	ACX1078
	VR381	(100k–A5*3) (For VSX–402)	ACX1079
	R351, R352		RD1/4PM271J
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
	CN9	JUMPER CONNECTOR (15P)	KPE15
	CN8	JUMPER CONNECTOR (4P)	KPE4

TONE. CON ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC301, IC302		NJM4558LD
	Q304		2SA1048
	Q301, Q302		2SC2878

CAPACITORS

Mark	No.	Description	Parts No.
	C323, C324		CCCSL120J50
	C307, C308		CCCSL220J50
	C309, C310, C327, C328		CEAS2R2M50
	C301, C302, C325, C326		CEAS4R7M50
	C311, C312		CFTYA153J50
	C317, C318		CFTYA183J50
	C313, C314		CFTYA823J50
	C303, C304		CKCYB331K50
	C305, C306, C321, C322		CKCYB391K50
	C319, C320		CKPUYB331K50
	C315, C316		CQMA332J50

RESISTORS

Mark	No.	Description	Parts No.
	VR301	(500k–B5)	ACS1091
	VR302, VR303	(100k–20A × 2)	ACS1092
		Other Resistors	RD1/8PM□□□J

OTHERS

Mark	No.	Description	Parts No.
		SEALED CASE (MTL)	ANK1250

H. PHNE, SP. SW ASSEMBLY

SWITCH

Mark	No.	Description	Parts No.
	S670		SUL6LYXS

CAPACITOR

Mark	No.	Description	Parts No.
	C670		CEAS010M50

RESISTORS

Mark	No.	Description	Parts No.
	R671, R672		RS2LMF331J

OTHER

Mark	No.	Description	Parts No.
		HEADPHONE JACK	AKN1002

TRANS ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	D763		4D4B44
	D761, D762		S5566

CAPACITOR

Mark	No.	Description	Parts No.
	C761	(0.01/150)	ACG1005

RESISTOR

Mark	No.	Description	Parts No.
	R791		RFA1/4PS220J

OTHER

Mark	No.	Description	Parts No.
	CN1	JUMPER CONNECTOR (6P)	KPE6

REG. ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC701, IC703		NJM78M12FAS
	IC702		NJM79M12FA

CAPACITORS

Mark	No.	Description	Parts No.
	C707, C709		CEAS101M25
	C708		CEHAQ101M25
	C710−C712		CKCYF103Z50

DOLBY. SURR. ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC1102		LA2730
	IC1101		M50198P
	Q1101		XDC124ES
	D1101−D1104		HSS104−02

CAPACITORS

Mark	No.	Description	Parts No.
	C1109		CEANP100M50
	C1125		CEAS010M50
	C1112, C1119, C1121		CEAS100M50
	C1130		CEAS101M16
	C1116		CEAS102M6
	C1129		CEAS220M16
	C1117		CEAS221M10
	C1105, C1122		CEAS470M16
	C1101, C1118		CEAS4R7M50
	C1104, C1108, C1124		CFTYA104J50
	C1128		CFTYA273J50
	C1126		CFTYA333J50
	C1123		CFTYA334J50
	C1106, C1107		CFTYA474J50
	C1114, C1115		CKCYX473M16
	C1113		CQMA123J50
	C1127		CQMA472J50
	C1103, C1111		CQMA561J50
	C1102, C1110		CQMA562J50
	C1120		CQMA822J50

RESISTOR

Mark	No.	Description	Parts No.
	R1111		RD1/4PM100J
		Other Resistors	RD1/8PM☐☐☐J

OTHER

Mark	No.	Description	Parts No.
	X1101	(3.27MHz)	ASS1016

DOL. PRO. MOD. ASSEMBLY

SEMICONDUCTORS

Mark	No.	Description	Parts No.
	IC1901		LA2780
	IC1903		LM3364K−15
	IC1902		LV1001M−A
	IC1906		M66320FP
	IC1904, IC1905		NJM4558M−D
	Q1903		2SD438
	Q1901		DTA143EK
	Q1902		DTC143EK
	D1901−D1905		1SS226

CAPACITORS

Mark	No.	Description	Parts No.
	C1938, C1964		CCSCH102J50
	C1971−C1973		CCSQCH101J50
	C1940, C1962		CCSQCH151J50
	C1953		CCSQCH471J50
	C1906, C1922, C1934, C1959		CCSQCH681J50
	C1909, C1910, C1917, C1918		CEANL2R2M50
	C1950		CEANP100M35
	C1956		CEANPR33M50
	C1951		CEAS010M50
	C1903, C1904, C1926, C1927, C1952, C1957, C1958, C1960		CEAS100M50
	C1902		CEAS101M10
	C1928, C1929		CEAS220M16
	C1968		CEAS221M10
	C1941−C1943		CEAS221M16
	C1930, C1931		CEAS2R2M50
	C1901		CEAS470M25
	C1936		CEAS471M16
	C1937, C1965		CEAS4R7M50
	C1911, C1916		CEASR15M50
	C1945		CEASR22M50
	C1912, C1915		CEYA3R3M50
	C1905, C1925		CEYAR33M50
	C1933		CFTXA103J50

Mark	No.	Description	Parts No.
	C1907, C1908, C1920, C1923, C1924, C1935		CFTXA104J50
	C1932		CFTXA153J50
	C1913, C1914, C1961		CFTXA154J50
	C1939, C1963		CFTXA223J50
	C1949		CFTXA333J50
	C1921		CFTXA334J50
	C1919		CFTXA473J50
	C1946		CFTXA683J50
	C1967		CKSQYB103K50
	C1970		CKSQYB562K50
	C1944, C1966		CKSQYF104Z50
	C1947		CQMA392J50
	C1948		CQMA472J50
	C1954		CQMA562J50
	C1955		CQMA682J50
RESISTOR			
	VR1901	(47K)	ACP1045
	R1962, R1964		RS1/10S100J
	R1917, R1918, R1921, R1922		RS1/10S101J
	R1929, R1930, R1935−1938, R1943, R1959−R1961, R1963		RS1/10S102J
	R1914, R1940		RS1/10S103J
	R1939		RS1/10S105J
	R1915		RS1/10S152J
	R1906, R1910, 1945		RS1/10S153J
	R1905, R1912		RS1/10S202J
	R1950		RS1/10S222J
	R1933, R1934		RS1/10S223J
	R1931, R1932, R1944, R1951−R1953		RS1/10S224J
	R1942		RS1/10S332J
	R1949		RS1/10S393J
	R1903, R1904, R1916, R1925, R1926		RS1/10S472J
	R1907, R1909, 1923, R1924, R1941, R1957		RS1/10S473J
	R1913		RS1/10S474J
	R1958		RS1/10S513J
	R1908, R1911		RS1/10S752J
	R1946−R1948		RS1/10S822J
	R1901, R1902, R1927, R1928		RS1/10S911J
OTHER			
	X1901	(8.00MHz)	ASS1015

5. ADJUSTMENTS

5.1 TUNER SECTION

1. Wiring ······ Connect the wires as shown in Fig. 5−1 (FM ANT. terminal : 75Ω).

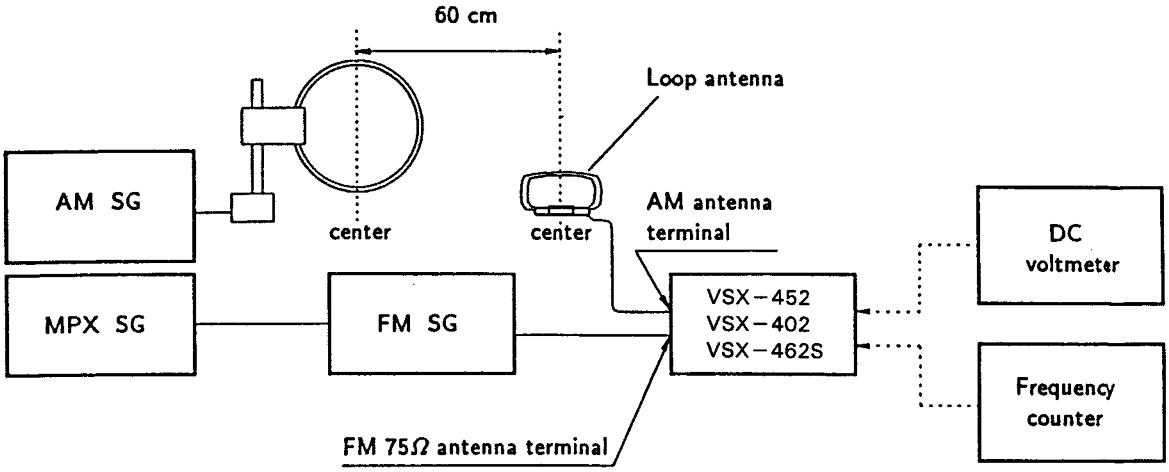

60 cm
Loop antenna
AM SG
center
center
AM antenna terminal
DC voltmeter
MPX SG
FM SG
VSX−452
VSX−402
VSX−462S
Frequency counter
FM 75Ω antenna terminal

Fig. 5−1 Connection Diagram

Note : Stereo modulation Main 1kHz, L+R, ±68.25kHz dev.
Pilot 19kHz, ±6.75kHz dev.

FM Section

Order	Item	SSG (1kHz, ±75kHz dev.)			Receiving frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment location	Description
1	Center adjustment	98MHz	—	60dBμV	98MHz	L101	Set the voltage at both sides of R111 to 0V±50mV.
2	Checking front end sensitivity	98MHz	—	20−30dBμV	98MHz	—	Check that the sensitivity is 10dBμV or less.
3	Checking stereo distortion	98MHz	STEREO	60dBμV	98MHz	—	Check that the stereo distortion is 2.0% or less. If the stereo distortion is more than 2.0%, turn the IF transformer T101 located in the front end by a maximum angle of 90 degrees. Confirm that the stereo distortion is in the specified range.
4	Checking separation	98MHz	STEREO	60dBμV	98MHz	—	Check that the separation of CN101−Lch or Rch is 23 dB or more. If the separation is under 23 dB, cut R121 and confirm that it is in the specified range.
5	Checking lights up level of TUNED IND.	98MHz	—	—	98MHz	—	Check that the TUNED IND. lights up at an input level between 7 and 33 dBμV. If TUNED IND. does not light up within the specified range, cut R113 and confirm that the indicator lights up within the specified range.

AM Section

Order	Item	SSG (400Hz, 30% MOD.)			Receiving frequency	Adjustment	
		Frequency	Modulation	Level		Adjustment location	Description
1	Checking front end sensitivity	1000kHz	—	20−30dBμV	1000kHz	—	Check that the maximum sensitivity is 60 dBμV/m or less.
2	Checking lights up level of TUNED IND.	1000kHz	—	—	1000kHz	—	Check that the TUNED IND. lights up at 70 dBμV/m or less (within 5 minutes after switching the power ON). If the TUNED IND. does not light up within the specified range, cut R117 and confirm that the indicator lights up within the specified range.

TUNER assembly

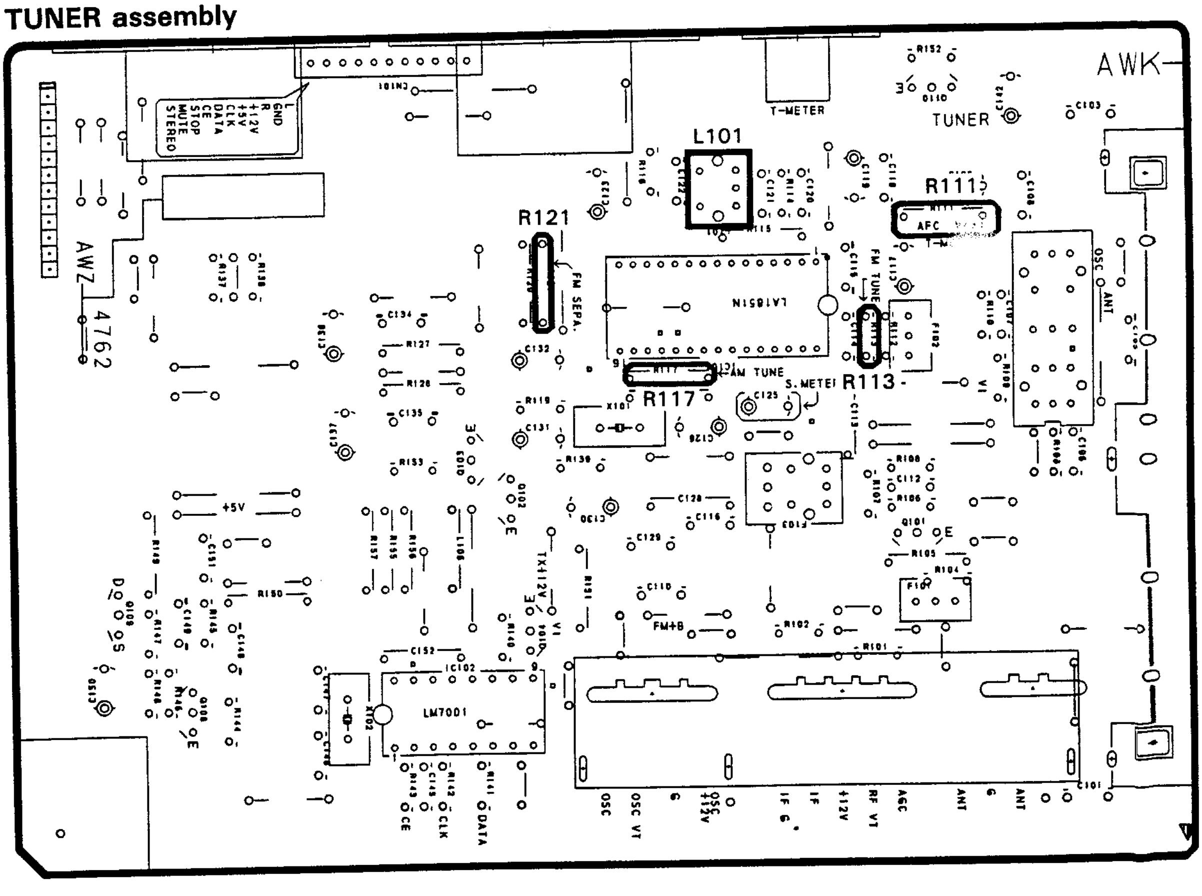

AWK
TUNER
T-METER
L101
R121
R111
AFC
FM SEPA.
LA1851N
FM TUNE
AM TUNE
R117
S.METER
R113
AWZ 4762
+5V
LM7001
FM+B
OSC
ANT
OSC VT
+12V
IF
RF VT
AGC
CE
CLK
DATA
GND
STEREO
MUTE
STOP

Fig. 5−2 Adjustment points

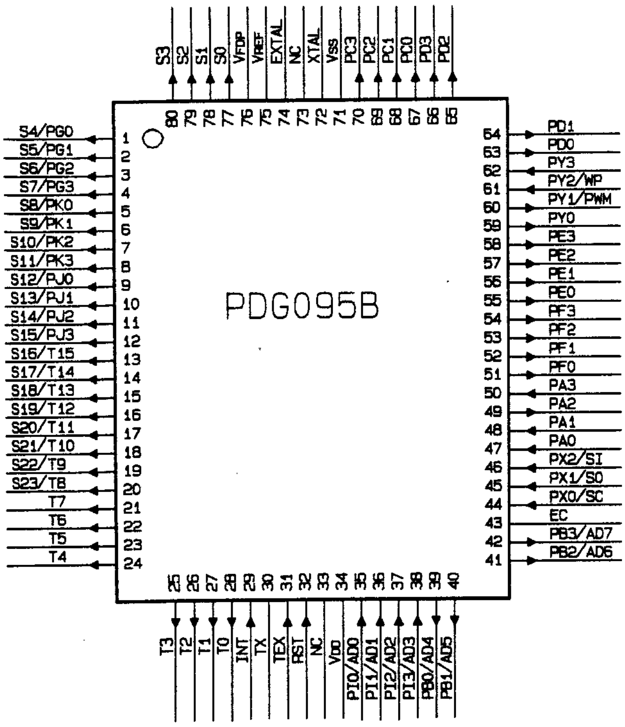
6. IC INFORMATION

- *The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.*

■ PDG095B (IC801 : FRONT. FL ASSEMBLY)

● Micro – computer

- Pin Assignment (Top View)


PDG095B
S3
S2
S1
S0
VFDP
VREF
EXTAL
NC
XTAL
Vss
PC3
PC2
PC1
PC0
PD3
PD2
S4/PG0
S5/PG1
S6/PG2
S7/PG3
S8/PK0
S9/PK1
S10/PK2
S11/PK3
S12/PJ0
S13/PJ1
S14/PJ2
S15/PJ3
S16/T15
S17/T14
S18/T13
S19/T12
S20/T11
S21/T10
S22/T9
S23/T8
T7
T6
T5
T4
PD1
PD0
PY3
PY2/WP
PY1/PWM
PY0
PE3
PE2
PE1
PE0
PF3
PF2
PF1
PF0
PA3
PA2
PA1
PA0
PX2/SI
PX1/SO
PX0/SC
EC
PB3/AD7
PB2/AD6
T3
T2
T1
T0
INT
TX
TEX
RST
NC
VDD
PI0/AD0
PI1/AD1
PI2/AD2
PI3/AD3
PB0/AD4
PB1/AD5

- Pin Function

No.	Name	I/O	Description	ACT.
1	S4 / PG0	O	Segment Output	H
2	S5 / PG1			
3	S6 / PG2			
4	S7 / PG3			
5	S8 / PK0			
6	S9 / PK1			
7	S10 / PK2			
8	S11 / PK3			
9	S12 / PJ0			
10	S13 / PJ1			
11	S14 / PJ2			
12	S15 / PJ3	O	Segment Output	H
13	S16 / PT15			
14	S17 / PT14			
15	S18 / PT13			
16	S19 / PT12			
17	S20 / PT11			
18	S21 / PT10	O	KEY SCAN Output	H
19	S22 / PT9			
20	S23 / PT8			
21	T7			
22	T6	O	Grid Output & KEY SCAN Output	H
23	T5			
24	T4			
25	T3			
26	T2			
27	T1			
28	T0			
29	INT	I	Switching VSX−452, 462S/VSX−402 (H : VSX−452, 462S, L : VSX−402)	H
30	TX	–	——	–
31	TEX	I	——	–
32	RST	I	RESET Input	H
33	NC	–	——	–
34	VDD	–	+5V Power supply	–
35	PI0 / AD0	I	KEY SCAN Input	H
36	PI1 / AD1			
37	PI2 / AD2			
38	PI3 / AD3	I	Not Used	–

No.	Name	I/O	Description	ACT.
39	PB0 / AD4	O	DOLBY NR ON / OFF	H
40	PB1 / AD5	O	SIMULATED SURROUND ON / OFF	H
41	PB2 / AD6	O	STUDIO ON / OFF	H
42	PB3 / AD7	O	TC9154 (VOLUME) STROB	H
43	$\overline{\text{EC}}$	I	Not Used (Connected to GND)	–
44	PX0 / $\overline{\text{SC}}$	I	Not Used	–
45	PX1 / SO			
46	PX2 / SI			
47	PA0	I	Switching 9k / 10k (H : 9k, L : 10k)	–
48	PA1	I	TUNER $\overline{\text{STEREO}}$ ON / OFF Input	L
49	PA2	O	TUNER MUTE ON / OFF	H
50	PA3	I	TUNER $\overline{\text{STOP}}$	L
51	PF0	O	TUNER LM7001 (PLL IC) CE	H
52	PF1	O	S–BASS ON / OFF	H
53	PF2	O	DATA	–
54	PF3	O	CLK	–
55	PE0	O	TC9164 (FUNCTION IC) STROB	H
56	PE1	O	M66320 / M50198 (VSX–452, 462S / VSX–402) STROB (Switching SURROUND MODE)	H
57	PE2	O	TC4052 (FUNCTION CONTROL IC)	–
58	PE3			
59	PY0	O	DOWN MOTOR VOLUME CONTROL	H
60	PY1 / PWM		UP	
61	PY2 / WP	I	WP	–
62	PY3REM	I	REMOTE CONTROL Input	L
63	PD0	O	AC Relay	H
64	PD1	O	MUTE	H
65	PD2	O	VIDEO CONTROL	–
66	PD3			
67	PC0	O	CENTER / REAR SP. Relay ON / OFF	H

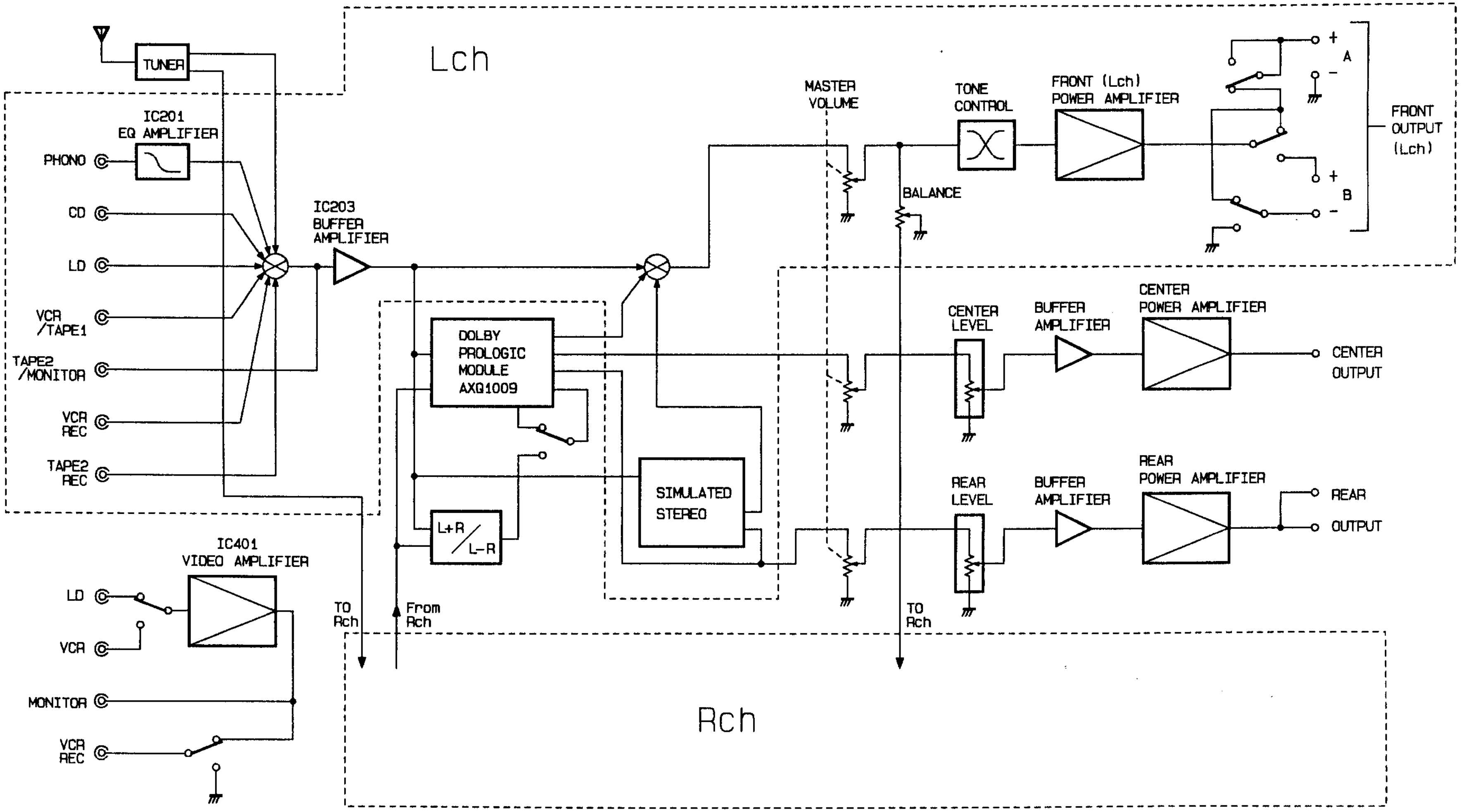
No.	Name	I/O	Description	ACT.
68	PC1	O	CENTER MODE Display	H
69	PC2			
70	PC3			
71	VSS	–	GND	–
72	XTAL	O	MAIN CLK Output / Connected to ceramic resonator (4.19MHz).	–
73	NC	–	———	–
74	EXTAL	I	MAIN CLK Input / Connected to ceramic resonator (4.19MHz).	–
75	VREF	–	Reference voltage Input / Connected to VDD.	–
76	VFDP	–	Power supply for FL.	–
77	S0	O	Segment Output	H
78	S1			
79	S2			
80	S3			

- **Key Matrix**

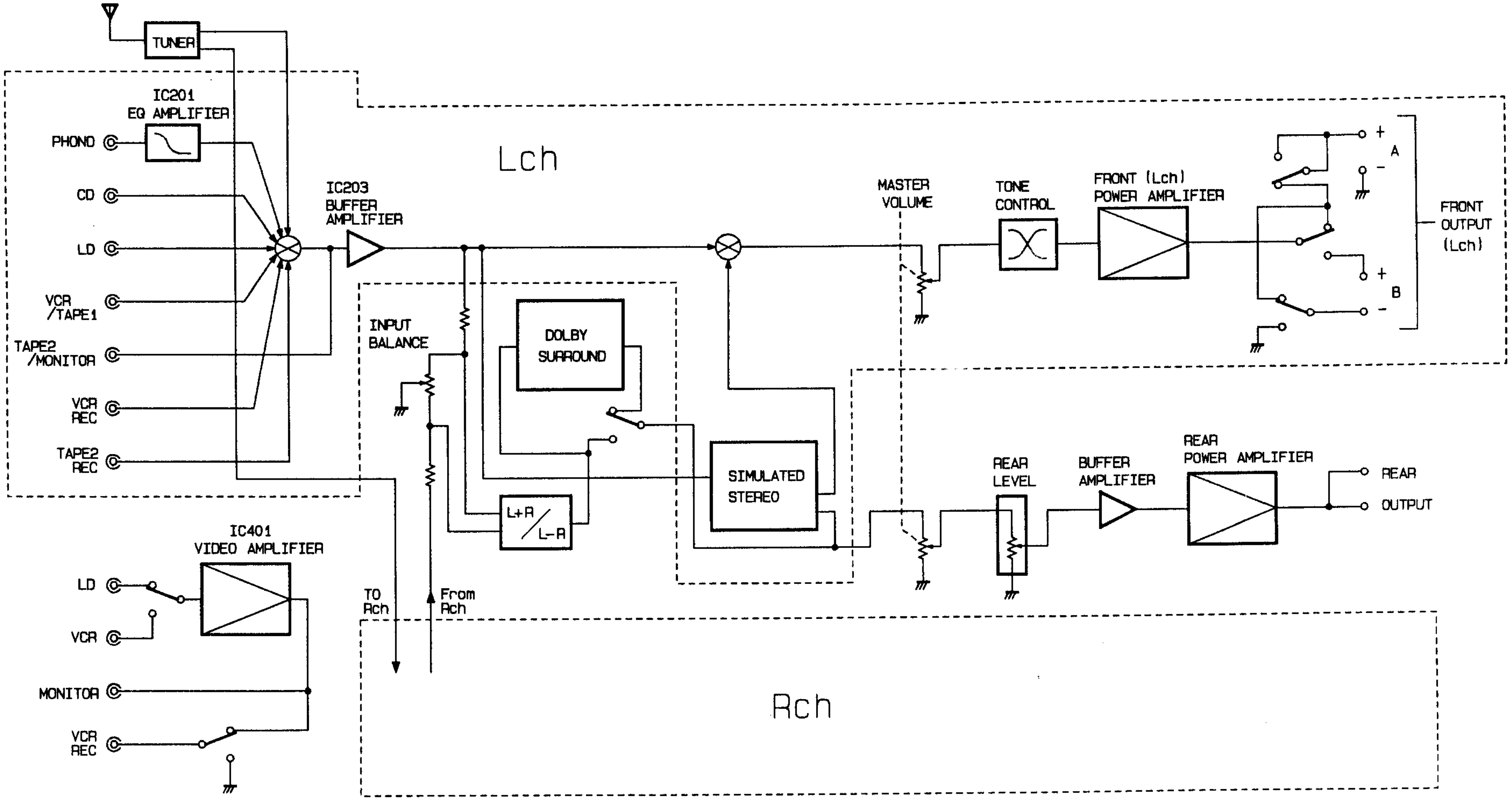
In Out	PI0	PI1	PI2
T0	POWER	ST–1	——
T1	FM/AM	ST–2	——
T2	MPX	ST–3	——
T3	MEMORY	ST–4	TAPE2
T4	TUNING –	ST–5	VCR1
T5	TUNING +	ST–6	LD
T6	S–STEREO	ST–7	CD
T7	3CH	ST–8	TUNER
T8	DOLBY	ST–9	PHONO
T9	SIMULATE	ST–0	S–BASS
T10	STUDIO	DIR–ACCESS	RETURN

7. BLOCK DIAGRAM

7.1 FOR VSX−452 AND VSX−462S


Lch
TUNER
IC201
EQ AMPLIFIER
PHONO
CD
LD
VCR /TAPE1
TAPE2 /MONITOR
VCR REC
TAPE2 REC
IC203 BUFFER AMPLIFIER
DOLBY PROLOGIC MODULE AXQ1009
L+R
L−R
SIMULATED STEREO
MASTER VOLUME
BALANCE
TONE CONTROL
FRONT (Lch) POWER AMPLIFIER
+
−
A
B
FRONT OUTPUT (Lch)
CENTER LEVEL
BUFFER AMPLIFIER
CENTER POWER AMPLIFIER
CENTER OUTPUT
REAR LEVEL
BUFFER AMPLIFIER
REAR POWER AMPLIFIER
REAR OUTPUT
IC401
VIDEO AMPLIFIER
LD
VCR
MONITOR
VCR REC
TO Rch
From Rch
TO Rch
Rch

7.2 FOR VSX-402


TUNER
IC201
EQ AMPLIFIER
PHONO
CD
LD
VCR /TAPE1
TAPE2 /MONITOR
VCR REC
TAPE2 REC
Lch
IC203
BUFFER AMPLIFIER
INPUT BALANCE
DOLBY SURROUND
L+R / L-R
SIMULATED STEREO
MASTER VOLUME
TONE CONTROL
FRONT (Lch) POWER AMPLIFIER
+
A
-
+
B
-
FRONT OUTPUT (Lch)
REAR LEVEL
BUFFER AMPLIFIER
REAR POWER AMPLIFIER
REAR OUTPUT
IC401
VIDEO AMPLIFIER
LD
VCR
MONITOR
VCR REC
TO Rch
From Rch
Rch

8. REMOTE CONTROL UNIT [CU−VSX065 (AXD1342)]

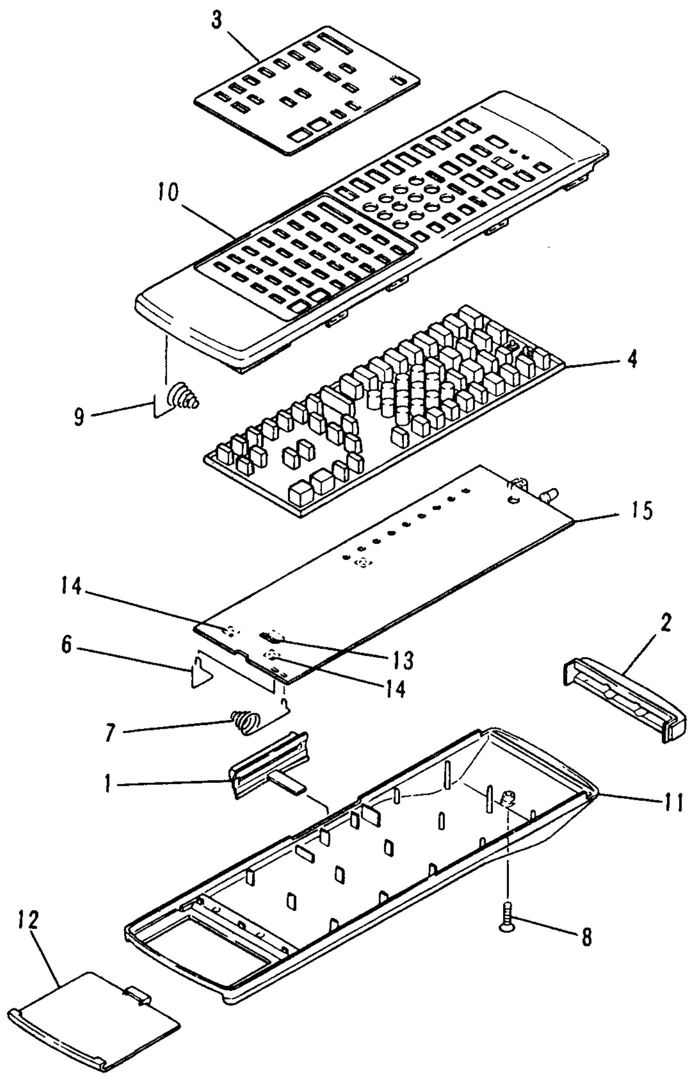
8.1 EXPLODED VIEW AND PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts list of Exterior

Mark	No.	Description	Parts No.
	1	MODE CHECK KEY	AZA1335
	2	FILTER	AZA1336
	3	PLATE	AZA1478
	4	RUBBER SHEET	AZA1479
	5	…………………	
	6	TERMINAL (+)	AZB1327
	7	TERMINAL (−)	AZB1328
	8	SCREW	AZB1329
	9	TERMINAL (C)	AZB1330
	10	CASE (A)	AZN2089
	11	CASE (B)	AZN2090
	12	BATTERY COVER	AZN2091
	13	SLIDE SW (SW1)	AZS1117
	14	TACT SW	AZS1118
NSP	15	P. C. BOARD	AZW1130



8.2 PCB PARTS LIST

NOTES :

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).

$560\Omega \rightarrow 56 \times 10^{1} \rightarrow 561$ ……………………… *RD1/8PM* $\boxed{5}\ \boxed{6}\ \boxed{1}$ *J*
$47k\Omega \rightarrow 47 \times 10^{3} \rightarrow 473$ ……………………… *RD1/4PS* $\boxed{4}\ \boxed{7}\ \boxed{3}$ *J*
$0.5\Omega \rightarrow 0R5$ ……………………………………… *RN2H* $\boxed{0}\ \boxed{R}\ \boxed{5}$ *K*
$1\Omega \rightarrow 010$ ……………………………………… *RS1P* $\boxed{0}\ \boxed{1}\ \boxed{0}$ *K*

Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).

$5.62k\Omega \rightarrow 562 \times 10^{1} \rightarrow 5621$ ……………… *RM1/4PC* $\boxed{5}\ \boxed{6}\ \boxed{2}\ \boxed{1}$ *F*

Mark	No.	Description	Parts No.
SEMICONDUCTORS			
	IC1	μ−COM	ACM001−017
	IC2	IC	AZC1564
	IC3	LOGIC IC	MC74HC138F
	Q1, 2	CHIP TRANSISTOR	2SC3052E
	Q3, 4	TRANSISTOR	2SD1622
	D1−6	DIODE	DWA010−TE
	D9−17	LED	AZC1573
	D7	LED	SLR−938C
	D8	DIODE	SPS−503C−3
CAPACITORS			
	C1, 2	CERAMIC CAPACITOR	CCDSL330J50
	C3	CERAMIC CAPACITOR	CCDSL221J50
	C4	CERAMIC CAPACITOR	CKDYX104M25
	C5	ELECT. CAPACITOR	CEAS470M10
	C6	CERAMIC CAPACITOR	CKDYB103K50
	C7	ELECT. CAPACITOR	CEAS221M10
	C8	ELECT. CAPACITOR	CEAS4R7M50
RESISTORS			
	R7, 8	CARBON FILM RESISTOR	RD1/4PMFL1R5J
		Other resistors	RD1/8PM☐☐☐J
OTHERS			
	X1	RESONATOR	AZC1570

8.3 SCHEMATIC DIAGRAM

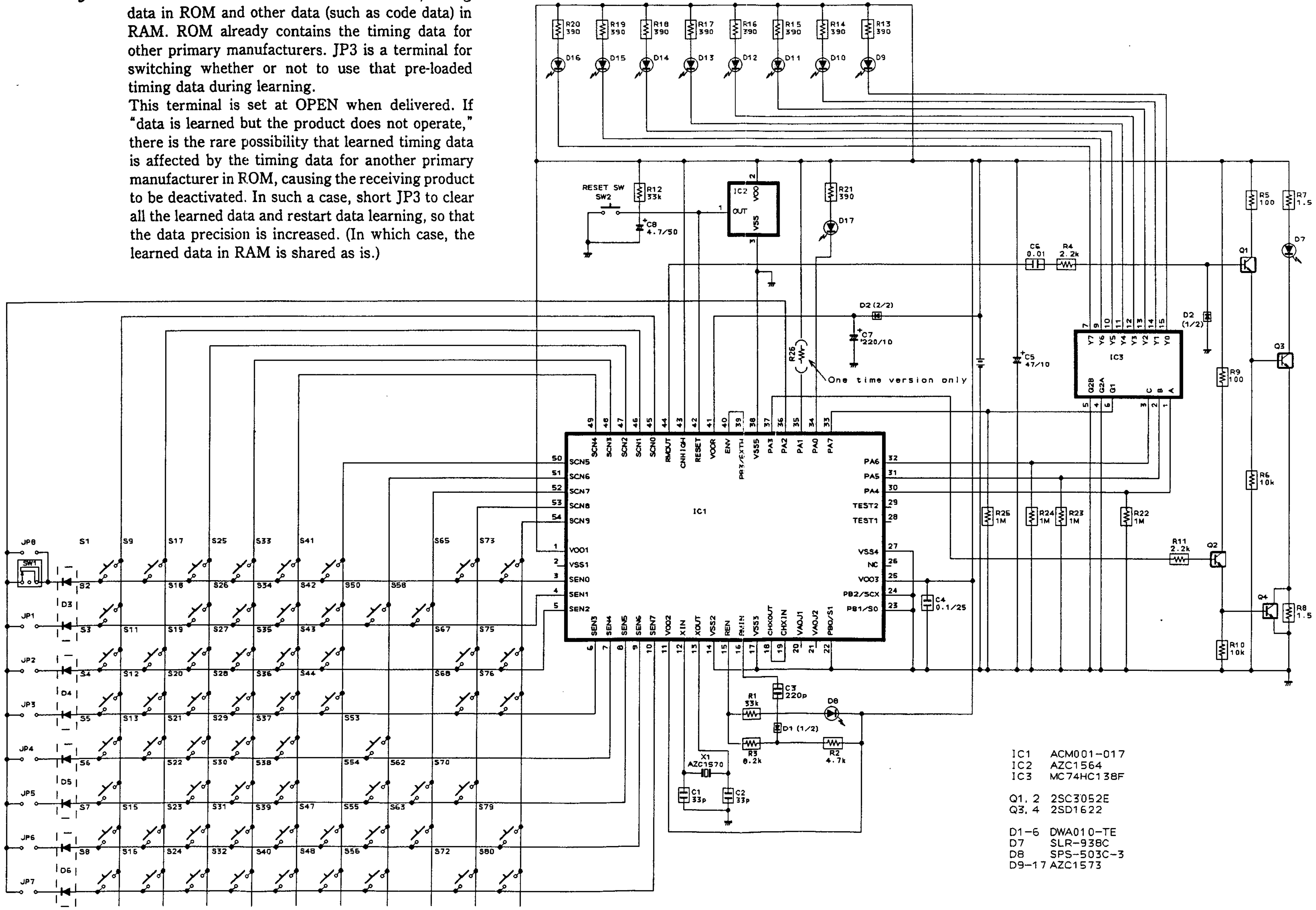
NOTE)

JP2 : The terminal for switching Fc (carrier frequency of the fixed code). This terminal is set at OPEN (Fc = 40kHz) when delivered. If a product of another manufacturer accidentally receives the PIONEER code, short the terminal so that Fc will be 36.7kHz. (In which case, the learned code and preset code do not change.)

JP3 : This remote control saves the learned data, timing data in ROM and other data (such as code data) in RAM. ROM already contains the timing data for other primary manufacturers. JP3 is a terminal for switching whether or not to use that pre-loaded timing data during learning.
This terminal is set at OPEN when delivered. If "data is learned but the product does not operate," there is the rare possibility that learned timing data is affected by the timing data for another primary manufacturer in ROM, causing the receiving product to be deactivated. In such a case, short JP3 to clear all the learned data and restart data learning, so that the data precision is increased. (In which case, the learned data in RAM is shared as is.)

NOTE:

–▭– : Indicates a chip resistor.
╪ : Indicates a chip capacitor.
▣ : Indicates a chip transistor.
▣ : Indicates a chip diode.


R20 390
R19 390
R18 390
R17 390
R16 390
R15 390
R14 390
R13 390
D16
D15
D14
D13
D12
D11
D10
D9
RESET SW
SW2
R12 33k
C8 4.7/50
IC2
VDD
OUT
VSS
R21 390
D17
C6 0.01
R4 2.2k
R5 100
R7 1.5
D7
Q1
D2 (2/2)
C7 220/10
R26
One time version only
C5 47/10
D2 (1/2)
IC3
Y7 Y6 Y5 Y4 Y3 Y2 Y1 Y0
G2B G2A G1 C B A
Q3
R9 100
IC1
SCN4 SCN3 SCN2 SCN1 SCN0 RMOUT CNHIGH RESET VOOR ENV PA7/EXTH VSS5 PA3 PA2 PA1 PA0 PA7
SCN5 SCN6 SCN7 SCN8 SCN9 VDD1 VSS1 SEN0 SEN1 SEN2
PA6 PA5 PA4 TEST2 TEST1 VSS4 NC VDD3 PB2/SCX PB1/SO
SEN3 SEN4 SEN5 SEN6 SEN7 VDD2 XIN XOUT VSS2 REN RMIN VSS3 CHXOUT CHXIN VADJ1 VADJ2 PB0/SI
C4 0.1/25
R25 1M
R24 1M
R23 1M
R22 1M
R6 10k
R11 2.2k
Q2
Q4
R8 1.5
R10 10k
R1 33k
C3 220p
D8
D1 (1/2)
R3 8.2k
R2 4.7k
X1 AZC1570
C1 33p
C2 33p
JP8
SW1
JP1
JP2
JP3
JP4
JP5
JP6
JP7
D3
D4
D5
D6
S1 S2 S3 S4 S5 S6 S7 S8 S9 S11 S12 S13 S15 S16 S17 S18 S19 S20 S21 S22 S23 S24 S25 S26 S27 S28 S29 S30 S31 S32 S33 S34 S35 S36 S37 S38 S39 S40 S41 S42 S43 S44 S47 S48 S50 S53 S54 S55 S56 S58 S62 S63 S65 S67 S68 S70 S72 S73 S75 S76 S79 S80

IC1	ACM001-017
IC2	AZC1564
IC3	MC74HC138F
Q1, 2	2SC3052E
Q3, 4	2SD1622
D1-6	DWA010-TE
D7	SLR-938C
D8	SPS-503C-3
D9-17	AZC1573

Note: (Type 2)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**
2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**
3. **RESISTORS:**
   Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
   Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
   Tolerance: (F): ±1%, (G): ±2%, (K): ±10%, (M): ±20% or ±5% unless otherwise noted.
4. **CAPACITORS:**
   Unit: p:pF or μF unless otherwise noted.
   Ratings: capacitor (μF)/ voltage (V) unless otherwise noted.
   Rated voltage: 50V except for electrolytic capacitors.
5. **COILS:**
   Unit: m:mH or μH unless otherwise noted.
6. **VOLTAGE AND CURRENT:**
   ▭ : DC voltage (V) at no input signal unless otherwise noted.
   ⇦ mA or ← mA : DC current at no input signal unless otherwise noted.
7. **OTHERS:**
   - ➡ : Signal route.
   - ⊘ : Adjusting point.
   - ▼ (Red) : Measurement point.
   - The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.
8. **SWITCHES** (Underline indicates switch position):

SW1 : CENT. ·BAL./REAR·REAR BAL.
SW2 : RESET
S1 : VCR1
S2 : VCR2
S3 : LD
S4 : TV
S5 : CD
S6 : TUNER
S7 : DECK I
S8 : DECK II
S9 : DAT
S10 : MODE CHECK
S11 : LEARN
S12 : EDIT
S13 : MULTI COMMAND
S14 : M.CLEAR
S15 : POWER
S16 : ⏮
S17 : REC
S18 : ⏭
S19 : ⏪
S20 : ◀ (SEARCH)
S21 : ⏩
S22 : ⏸
S23 : ■
S24 : ▶
S25 : TV/VCR (+10)
S26 : SELECT (DISP)
S27 : TV FUNC (BAND)
S28 : 1
S29 : 2
S30 : 3
S31 : 4
S32 : 5
S33 : 6
S34 : 7
S35 : 8
S36 : 9
S37 : 10/0
S38 : 11/PGM
S39 : 12/CLEAR
S40 : CUSTOM (TV VOL+)
S41 : SCAN (TV VOL−)
S42 : FREQ/CH (Λ)
S43 : FREQ/CH (V)
S44 : RECEIVER POWER
S47 : SLEEP
S48 : VCR/TAPE1
S50 : LD
S53 : TAPE2 MONITOR
S54 : CD
S55 : TUNER
S56 : PHONO
S58 : SIMULATED STEREO
S62 : RETURN
S63 : SURROUND MODE
S65 : CENTER MODE
S67 : MUTING
S68 : TEST TONE
S70 : DELAY TIME
S72 : REAR LEVEL +
S73 : CENTER LEVEL +
S75 : REAR LEVEL −
S76 : CENTER LEVEL −
S79 : MASTER VOLUME +
S80 : MASTER VOLUME −

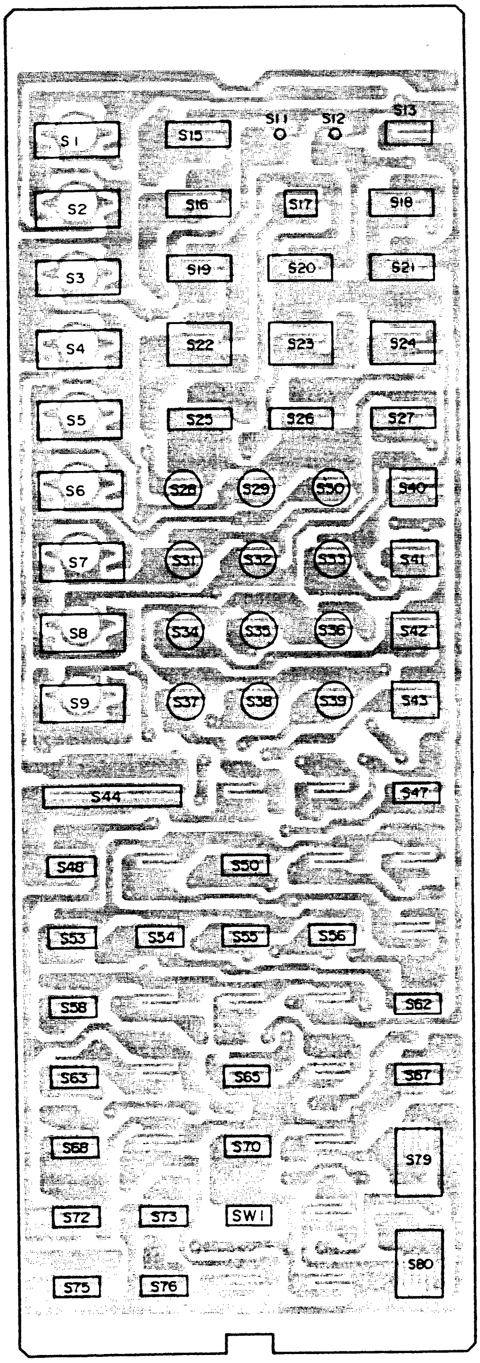
8.4 PCB PATTERN

▭ : Indicates a chip resistor.

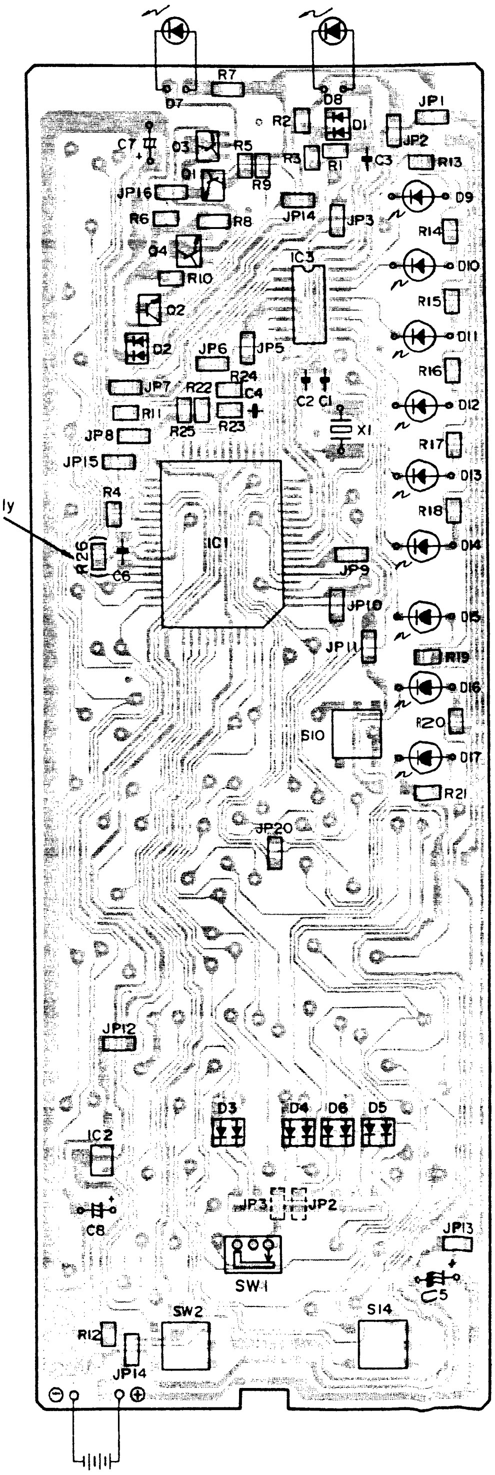
—▮— : Indicates a chip capacitor.

: Indicates a chip transistor.

: Indicates a chip diode.

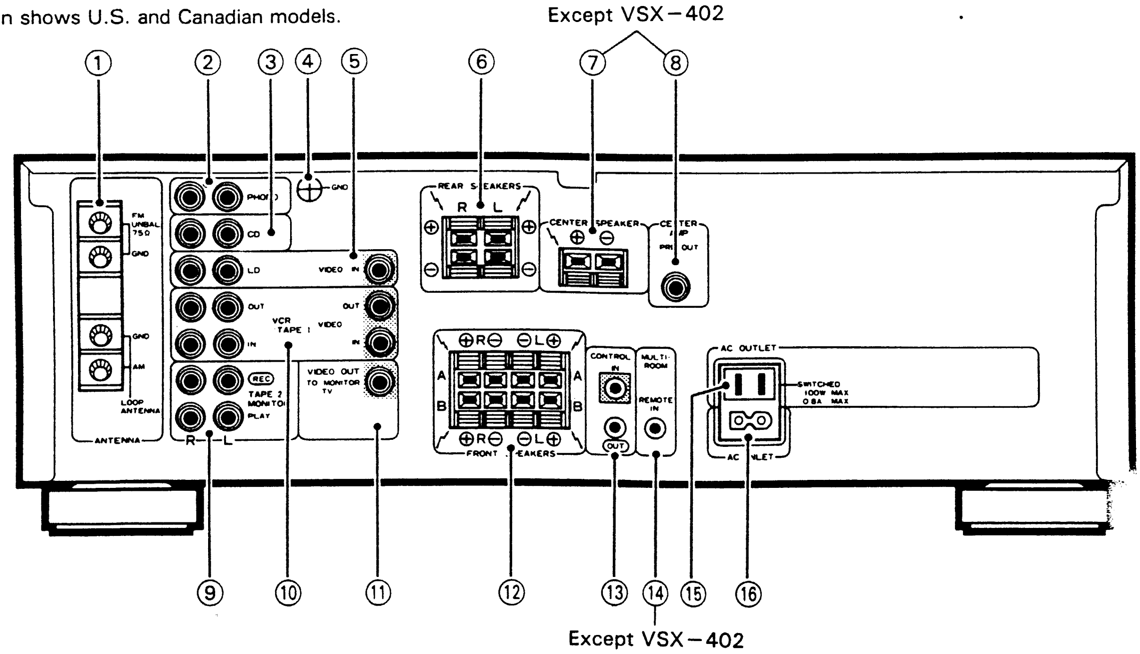

S1
S2
S3
S4
S5
S6
S7
S8
S9
S11
S12
S13
S15
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29
S30
S31
S32
S33
S34
S35
S36
S37
S38
S39
S40
S41
S42
S43
S44
S47
S48
S50
S53
S54
S55
S56
S58
S62
S63
S65
S67
S68
S70
S79
S72
S73
SW1
S80
S75
S76

One time version only


D7
R7
D8
R2
D1
JP1
JP2
C7
Q3
R5
R3
R1
C3
R13
D1
R9
JP16
D9
R6
R8
JP14
JP3
R14
Q4
IC3
D10
R10
R15
Q2
D11
D2
JP6
JP5
R24
R16
JP7
R22
C4
C2
C1
D12
R11
R25
R23
X1
JP8
R17
JP15
D13
R4
R18
R26
IC1
D14
C6
JP9
JP10
D15
JP11
R19
D16
S10
R20
D17
R21
JP20
JP12
D3
D4
D6
D5
IC2
JP3
JP2
C8
JP13
SW1
C5
SW2
S14
R12
JP14
⊖
⊕

9. PANEL FACILITIES

* Illustration shows U.S. and Canadian models.


Except VSX−402
①
②
③
④
⑤
⑥
⑦
⑧
FM UNBAL 75Ω
GND
GND
AM
LOOP ANTENNA
ANTENNA
PHONO
CD
GND
LD
VIDEO IN
OUT
VCR TAPE 1
VIDEO
OUT
IN
IN
REC
TAPE 2 MONITOR
PLAY
VIDEO OUT TO MONITOR TV
R
L
REAR SPEAKERS
R
L
CENTER SPEAKER
CENTER AMP PRE OUT
⊕R⊖ ⊖L⊕
A
B
FRONT SPEAKERS
CONTROL IN
OUT
MULTI-ROOM REMOTE IN
AC OUTLET
SWITCHED 100W MAX 0.8A MAX
AC OUTLET
⑨
⑩
⑪
⑫
⑬
⑭
⑮
⑯
Except VSX−402

① FM/AM ANTENNA terminals

Connect to FM and AM antennas.

② PHONO input jacks

Connect to the output cables from a turntable.

③ CD input jacks

Connect to the output jacks of a compact disc player.

④ GND terminal

Connect the turntable ground lead to this terminal.
Loosen the screw, connect the ground lead, and then tighten the screw.

⑤ LD input jacks

Connect to an LD player's output jacks (audio, video).

⑥ REAR SPEAKERS terminals

Connect the rear speakers to these terminals.
Use rear speakers of impedance 8 Ω—16 Ω.

⑦ CENTER SPEAKER terminals (Except VSX−402)

Connect the center speaker to these terminals.
Use center speakers of impedance 8 Ω—16 Ω.

⑧ CENTER AMP PRE OUT jack (Except VSX−402)

When a separate power amplifier is used to drive the surround center speaker, connect the power amplifier to this jack.

⑨ TAPE 2 MONITOR jacks

Connect to audio components such as a second cassette deck or graphic equalizer.

⑩ VCR/TAPE 1 jacks

Connect to the first cassette deck or a VCR. With a VCR, also connect the video jacks.

⑪ VIDEO OUT (TO MONITOR TV) jack

Connect to a monitor TV.

⑫ FRONT SPEAKERS terminals

A: Connect to the first set of speakers.
B: Connect to the second set of speakers.
Use speakers of impedance 8 Ω—16 Ω.

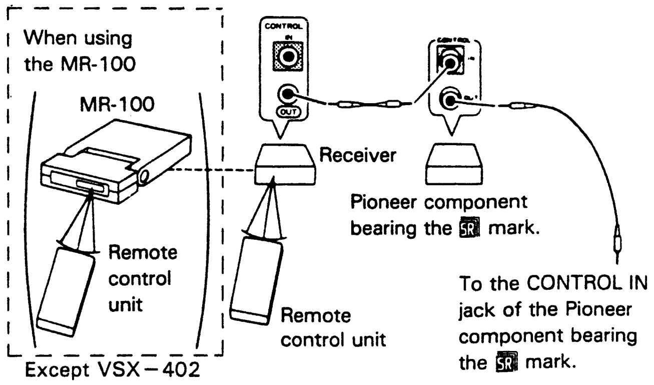
⑬ CONTROL IN/OUT jacks

IN: Connect this jack to other Pioneer components (main unit or remote control unit) when using those components to control this unit.

OUT: Connect this jack to other Pioneer components when using the remote control of this unit to control the other components.

NOTE:

The receiver's remote sensor does not function when a plug is inserted in IN jack. To operate, point the remote control unit at the remote sensor on the component to which the receiver's IN jack is connected.


When using the MR-100
MR-100
Remote control unit
Except VSX−402
CONTROL IN
OUT
Receiver
Pioneer component bearing the SR mark.
Remote control unit
To the CONTROL IN jack of the Pioneer component bearing the SR mark.

⑭ MULTI-ROOM REMOTE IN jack (Except VSX−402)

Connect to the separately sold MR-100 Multi-Room remote control unit.

⑮ AC OUTLET

[SWITCHED TOTAL 100 W (0.8 A) MAX]

Power supplied through these outlets is turned on and off by the receiver's POWER switch. Total electrical power consumption of connected equipment should not exceed 100 W (0.8 A).

NOTE:

- *This unit should be disconnected by removing the power plug from the wall socket when not in regular use, e.g. when on vacation.*
- *Do not connect appliances with high power consumption such as heaters, irons, or television sets to these AC OUTLET in order to avoid overheating and fire risk.*
  This can cause the receiver to malfunction.

CAUTION:
DO NOT CONNECT MONITOR OR TV SET.

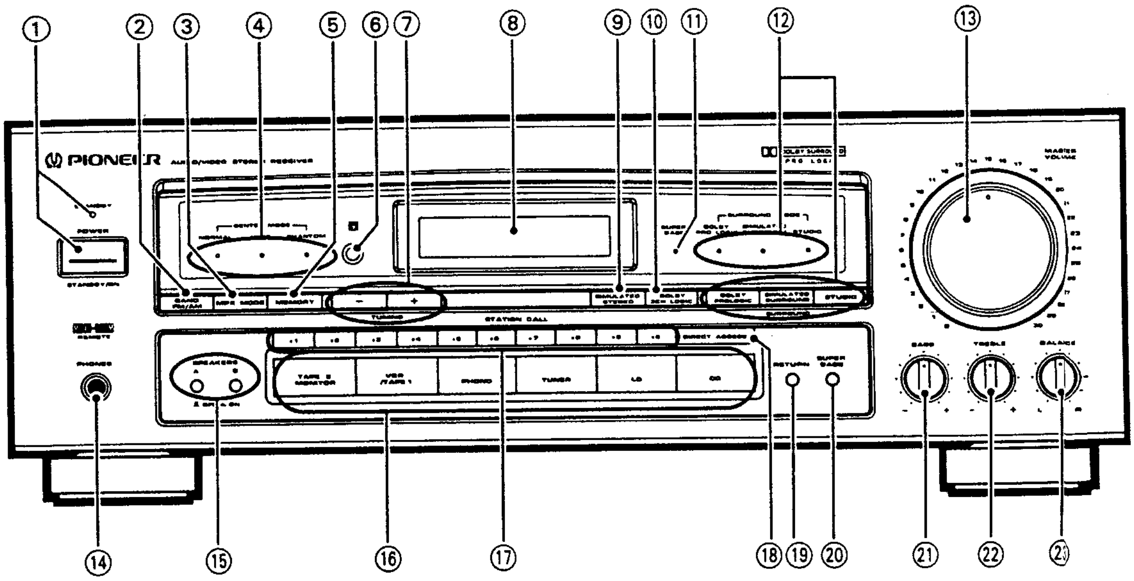
⑯ AC INLET

Connect the supplied power cord.

POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

For VSX−452 and VSX−462S



① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is STANDBY, and goes out during ON.

[Timer ON/OFF possible]

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 6 seconds.

② BAND FM/AM button

Use this to switch between FM and AM frequency band reception.

③ MPX MODE button

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator in the display section is lit.

Auto stereo mode:
Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.

Monaural mode:
Use if the signal is weak and there is a lot of noise when receiving an FM stereo broadcast. Reception becomes monaural, but noise is reduced.

NOTE:
This button has no effect on reception of AM broadcasts.

④ CENTER MODE indicators

⑤ MEMORY button

Pressing this button will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

⑥ Remote sensor window

⑦ TUNING buttons

+: Performs tuning from the currently displayed station frequency in ascending frequency order.
–: Performs tuning in order of descending frequencies.

⑧ Display section

⑨ SIMULATED STEREO button

Press to produce a simulated stereo effect when listening to monaural sources (for example, AM or TV broadcasts).
"SIMULATED STEREO" appears on the display section.

NOTE:
This effect is not produced through the rear speakers.

⑩ DOLBY 3CH LOGIC button

This switches on and off the DOLBY 3CH LOGIC.

⑪ SUPER BASS indicator

Lights when SUPER BASS is ON.

⑫ SURROUND MODE selector buttons/indicators

⑬ MASTER VOLUME control

Use it to simultaneously adjust the sound volume from the front, center and rear speakers.

⑭ PHONES jack

Connect the plug on your headphones to this jack. Set all SPEAKERS A and B switches to OFF if you want to cut the sound from speakers and listen to it only through the headphones.

⑮ SPEAKERS buttons (A, B) ■ OFF ▬ ON

ON/OFF switches for the A and B speaker systems.

NOTE:
No sound will be heard thorough the speakers when both A and B buttons are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

⑯ Input selector buttons

TAPE 2 MONITOR: Press when performing playback on a second cassette deck and when monitoring recording.
VCR/TAPE 1: Press when performing playback on a VCR unit or cassette deck.
PHONO: Press when playing records on turntable.
TUNER: Press when listening to radio broadcasts.
LD: Press when performing playback on an LD player.
CD: Press when playing compact discs on a CD player.

⑰ STATION CALL buttons

Up to 30 FM or AM stations can be preset at random.
These buttons are used to preset and recall desired broadcasting stations, FM AUTO/MONO mode.

⑱ DIRECT ACCESS tuning button

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

⑲ RETURN button

Press this button to return the receiver into the initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

- TAPE 2 MONITOR .... OFF
- FUNCTION .... TUNER
- SURROUND MODE .... OFF
- MUTING .... OFF

Returns you to the last FM station you were receiving. When reception is not possible, auto tuning (UP) starts from that frequency.

NOTE:
If no sound is output after the RETURN button is pressed, make sure that SPEAKERS buttons are turned on.

⑳ SUPER BASS button

Switch ON when you want to boost bass. The SUPER BASS indicator lights.

㉑ BASS control buttons

Use to adjust the low-frequency level.
Turn clockwise to boost bass, and counterclockwise to attenuate bass.

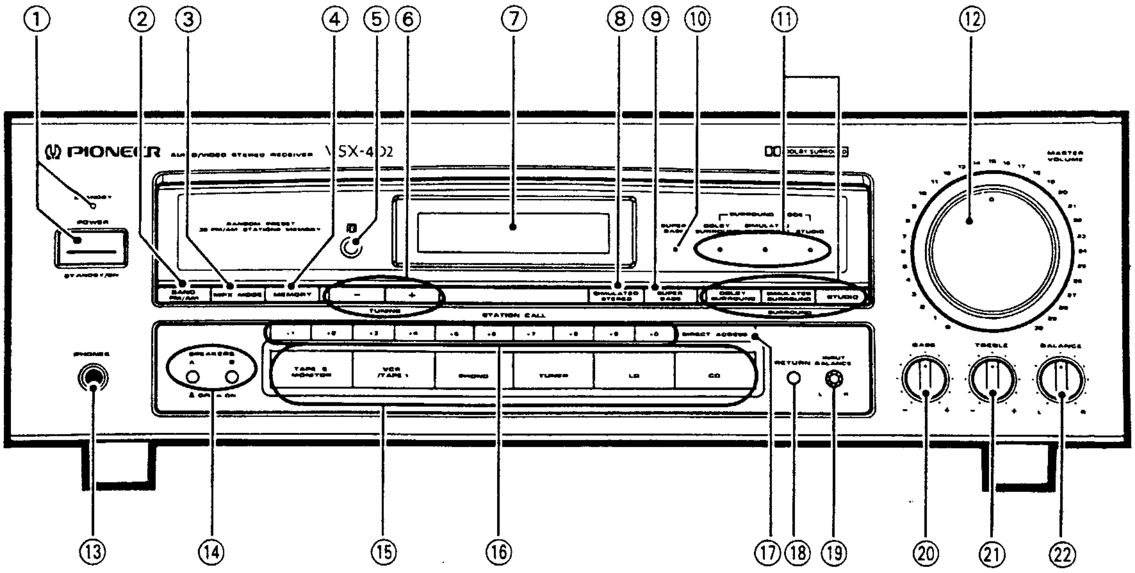
㉒ TREBLE control

Use to adjust the high-frequency level.
Turn clockwise to boost treble, and counterclockwise to attenuate treble.

㉓ BALANCE control

Use to adjust the sound volume balance between left and right speakers.
L: Decrease the sound on the right side.
R: Decrease the sound on the left side.
Usually, left and right volume levels should be the same.

For VSX−402



① POWER STANDBY/ON switch/STANDBY indicator

This is the switch for electric power.

ON: When set to the ON position, power is supplied and the unit becomes operational.

STANDBY: When set to STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.

The STANDBY indicator lights when the power is STANDBY, and goes out during ON.

[Timer ON/OFF possible]

When the unit is switched ON, ON/OFF control can be performed by means of the optional timer.

NOTE:

When the power is initially turned ON, muting will be applied to prevent sound from being output for about 6 seconds.

② BAND FM/AM button

Use this to switch between FM and AM frequency band reception.

③ MPX MODE button

Use to select the auto stereo mode or monaural mode when listening to FM broadcasts. The monaural mode has been selected when the FM MONO indicator in the display section is lit.

Auto stereo mode:

Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.

Monaural mode:

Use if the signal is weak and there is a lot of noise when receiving an FM stereo broadcast. Reception becomes monaural, but noise is reduced.

NOTE:

This button has no effect on reception of AM broadcasts.

④ MEMORY button

Pressing this button will result in the memorization of the current broadcast band, reception frequency, and FM AUTO/MONO mode.

⑤ Remote sensor window

⑥ TUNING buttons

+: Performs tuning from the currently displayed station frequency in ascending frequency order.

−: Performs tuning in order of descending frequencies.

⑦ Display section

⑧ SIMULATED STEREO button

Press to produce a simulated stereo effect when listening to monaural sources (for example, AM or TV broadcasts).

"SIMULATED STEREO" appears on the display section.

NOTE:

- *This effect is not produced through the rear speakers.*
- *Use with the SURROUND MODE in the OFF.*

⑨ SUPER BASS button

Switch ON when you want to boost bass. The SUPER BASS indicator lights.

⑩ SUPER BASS indicator

Lights when SUPER BASS is ON.

⑪ SURROUND MODE selector buttons/indicators

⑫ MASTER VOLUME control

Use it to simultaneously adjust the sound volume from the front, center and rear speakers.

⑬ PHONES jack

Connect the plug on your headphones to this jack. Set all SPEAKERS A and B switches to OFF if you want to cut the sound from speakers and listen to it only through the headphones.

⑭ SPEAKERS buttons (A, B) ■ OFF ▬ ON

ON/OFF switches for the A and B speaker systems.

NOTE:
No sound will be heard thorough the speakers when both A and B buttons are depressed if only one set of speakers has been connected to either A or B SPEAKERS terminals.

⑮ Input selector buttons

TAPE 2 MONITOR:	Press when performing playback on a second cassette deck and when monitoring recording.
VCR/TAPE 1:	Press when performing playback on a VCR unit or cassette deck.
PHONO:	Press when playing records on turntable.
TUNER:	Press when listening to radio broadcasts.
LD:	Press when performing playback on an LD player.
CD:	Press when playing compact discs on a CD player.

⑯ STATION CALL buttons

Up to 30 FM or AM stations can be preset at random.
These buttons are used to preset and recall desired broadcasting stations, FM AUTO/MONO mode.

⑰ DIRECT ACCESS tuning button

When this button is pressed, the STATION CALL buttons function as ten-key number buttons for direct input of the desired reception frequency. Press again to cancel this mode.

⑱ RETURN button

Press this button to return the receiver into the initial state. TUNER is selected at this initial state. Adjust the sound level by using the MASTER VOLUME control.

- TAPE 2 MONITOR .... OFF • FUNCTION .... TUNER
- SURROUND MODE .... OFF
- MUTING .... OFF

Returns you to the last FM station you were receiving. When reception is not possible, auto tuning (UP) starts from that frequency.

NOTE:
If no sound is output after the RETURN button is pressed, make sure that SPEAKERS buttons are turned on.

⑲ INPUT BALANCE control

This knob is for adjusting the balance of the DOLBY SURROUND input signal.To adjust, apply a monaural sound signal and rotate until the SURROUND (rear) sound becomes minimal

⑳ BASS control

Use to adjust the low-frequency level.
Turn clockwise to boost bass, and counterclockwise to attenuate bass.

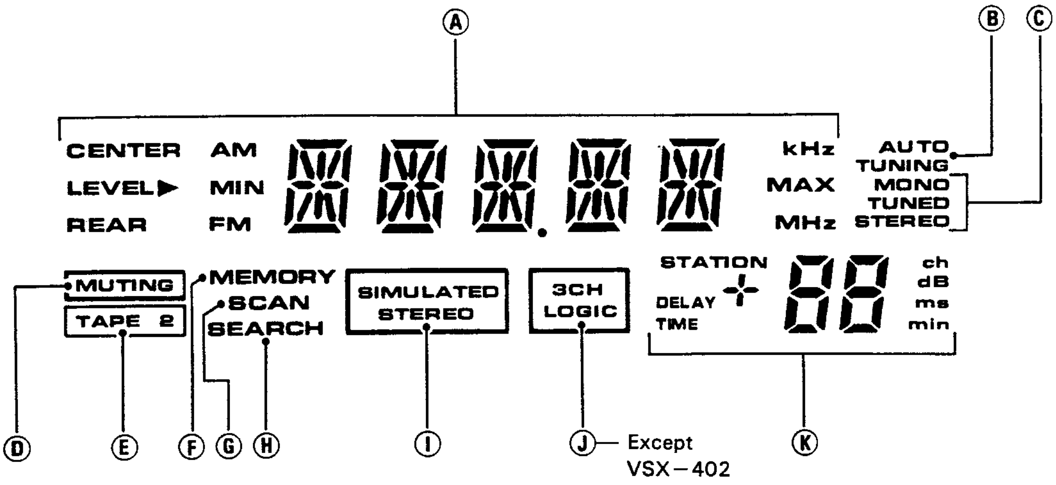
㉑ TREBLE control

Use to adjust the high-frequency level.
Turn clockwise to boost treble, and counterclockwise to attenuate treble.

㉒ BALANCE control

Use to adjust the sound volume balance between left and right speakers.
L: Decrease the sound on the right side.
R: Decrease the sound on the left side.
Usually, left and right volume levels should be the same.

DISPLAY SECTION


Ⓐ
Ⓑ
Ⓒ
CENTER
LEVEL▶
REAR
AM
MIN
FM
kHz
MAX
MHz
AUTO
TUNING
MONO
TUNED
STEREO
MUTING
TAPE 2
MEMORY
SCAN
SEARCH
SIMULATED STEREO
3CH LOGIC
STATION
DELAY TIME
ch
dB
ms
min
Ⓓ
Ⓔ
Ⓕ
Ⓖ
Ⓗ
Ⓘ
Ⓙ
Except VSX−402
Ⓚ

Ⓐ CHARACTER/LEVEL display

- Displays function, frequency and "SLEEP"
- It also displays the level settings during adjustment. During level display, MIN and MAX light.

Ⓑ AUTO TUNING indicator

Lights up when in the auto tuning mode.

Ⓒ Tuning indicator

TUNED: Lights up when a station is tuned in during TUNER operation.
MONO: Lights up when the FM MONO mode is selected with the MPX MODE button.
STEREO: Lights up when a stereo FM broadcast is being received.

Ⓓ MUTING indicator

Flashes when MUTING in ON.

Ⓔ TAPE 2 indicator

Lights up when the input selector is set to TAPE 2 MONITOR ON.

Ⓕ MEMORY indicator

When presetting stations, this lights when the MEMORY button is pressed.

Ⓖ SCAN indicator

Lights up during memory scan operation.

Ⓗ SEARCH indicator

Lights during Return mode operation.

Ⓘ SIMULATED STEREO indicator

Ⓙ DOLBY 3CH LOGIC indicator (Except VSX−402)

Ⓚ STATION/DELAY TIME/LEVEL/SLEEP TIME display

- Indicates the channel (ch) selected with the STATION CALL buttons.
- Indicates delay time (ms) when using SIMULATED SURROUND or DOLBY PRO LOGIC SURROUND.
- Indicates rear level and center level (dB).
- Indicates sleep timer settings (min).

10. SPECIFICATIONS

Amplifier section

Continuous average power output of 80 watts* per channel, min., at 8 Ohms, from 20 Hz to 20,000 Hz with no more than 0.09 % total harmonic distortion (front).**

Continuous power output (When using SURROUND MODE)	
Rear only driven	20 W + 20 W (1 kHz, 0.8 %, 8 Ω)
Front and Center driven (Except VSX−402)	
Front	60 W + 60 W (1 kHz, 0.8 %, 8 Ω)
Center (Only with DOLBY PRO LOGIC SURROUND)	60 W (1 kHz, 0.8 %, 8 Ω)
Input (Sensitivity/Impedance)	
PHONO MM	2.8 mV/47 kΩ
CD, VCR/TAPE 1, TAPE 2, LD	200 mV/47 kΩ
Phono Overload Level (T.H.D. 0.1 %, 1 kHz)**	
PHONO MM	100 mV
Frequency Response	
PHONO MM	20 Hz to 20,000 Hz ±0.5 dB
CD, VCR/TAPE 1, TAPE 2, LD	10 Hz to 70,000 Hz $^{+0.5}_{-3.0}$ dB
Output (Level/Impedance)	
VCR/TAPE 1 REC, TAPE 2 REC	200 mV/2.2 kΩ
Tone Control	
BASS	±8 dB (100 Hz)
TREBLE	±8 dB (10 kHz)
Signal-to-Noise Ratio (IHF, short circuited, A network)	
PHONO MM	72 dB
CD, VCR/TAPE 1, TAPE 2, LD	96 dB
Signal-to-Noise Ratio [EIA, at 1 W (1 kHz)]	
PHONO MM	75 dB
CD, VCR/TAPE 1, TAPE 2, LD	79 dB

* ***Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier.***

** ***Measured by Audio Spectrum Analyzer.***

VIDEO Section

Input (Sensitivity/Impedance)	
VCR/TAPE 1, LD	1 Vp-p/75 Ω
Output (Level/Impedance)	
VCR/TAPE 1, MONITOR	1 Vp-p/75 Ω
Frequency Response	
VCR/TAPE 1, LD → MONITOR	5 Hz — 10 MHz $^{+0}_{-3}$ dB
Signal to Noise Ratio	55 dB
Cross Talk	55 dB

MAINTENANCE OF EXTERNAL SURFACES

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surfaces are very dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleaners.
- Never use thinners, benzene, insecticide sprays and other chemicals on or near this unit, since these will corrode the surfaces.

FM Tuner Section

Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity	Mono; 12.3 dBf, IHF (1.1 µV/75 Ω)
50 dB Quieting Sensitivity	Mono; 16.8 dBf
	Stereo; 38.6 dBf
Signal-to-Noise Ratio	Mono; 73 dB (at 85 dBf)
	Stereo; 70 dB (at 85 dBf)
Distortion	Stereo; 0.3 % (1 kHz)
Alternate Channel Selectivity	50 dB (400 kHz)
Stereo Separation	35 dB (1 kHz)
Frequency Response	30 Hz to 15 kHz ±1 dB
Antenna Input	75 Ω unbalanced

AM Tuner Section

Frequency range	
With 9 kHz step	531 kHz — 1,602 kHz
With 10 kHz step	530 kHz — 1,700 kHz
Sensitivity (IHF, Loop antenna)	350 µV/m
Selectivity	20 dB
Signal-to-Noise Ratio	50 dB
Antenna	Loop antenna

Miscellaneous

Power requirements	
U.S. and Canadian models	AC 120 V, 60 Hz
Multi-voltage model	AC 110 V/120—127 V/220 V/240 V (switchable), 50/60 Hz
Power consumption (Except VSX−402)	
U.S. and Canadian models	240 W, 340 VA
Multi-voltage model	620 W
Power consumption (For VSX−402)	230 W, 330 VA
AC Outlet: SWITCHED x 1	
U.S. and Canadian models	100 W (0.8 A) MAX
Multi-voltage model	100 W MAX
Dimensions	420 (W) x 140.5 (H) x 349 (D) mm
(Except VSX−402)	16-9/16 (W) x 5-9/16 (H) x 13-3/4 (D) in
Dimensions	420 (W) x 140 (H) x 349 (D) mm
(For VSX−402)	16-9/16 (W) x 5-1/2 (H) x 13-3/4 (D) in
Weight (without package)	8.3 kg (18 lb 5 oz)

Furnished Parts

Power cord	1
FM antenna	1
AM Loop antenna	1
Dry cell batteries	
size "AAA" (IEC R03/UM-4) (Except VSX−462S)	2
Size "AA" Alkaline batteries (IEC LR6/AM-3)(For VSX−462S)	2
Remote control unit	1
Operating Instructions	1

NOTE:
Specifications and the design are subject to possible modifications without notice due to improvements.